eInclusion@EU

Strengthening eInclusion & eAccessibility across Europe

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Final Project Report

Final Version

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DELIVERABLE SUMMARY SHEET

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PROJECT CONSORTIUM

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	National Research and Development Centre for Welfare and Health (STAKES), FIN
	Budapest University of Economic Science and Public Administration (BUESPA), HU

SHORT DESCRIPTION:

The eInclusion@EU project is a co-ordination action with the objective of contributing to the development of evidence-based eInclusion and eAccessibility policies at EU and Member State levels. This report presents the main outcomes generated in this regard, with a focus on conceptual work carried out during the project's start-up phase and an informed stake holder dialogue pursued throughout the reminder of the project duration. As the eInclusion domain is a very broad-ranging and complex one no single project such as eInclusion@EU could attempt to cover this field in its entirety. Clearly, there was need to focus the project on some specific issues to enable some real value-added to be contributed. Based on an initial analysis of the field of enquiry, it was therefore decided in consultation with the Commission to pay detailed attention to three core topics, namely (a) the eAccessibility component in eInclusion, (b) eInclusion in relation to work and employments with particular focus on aspects relating to the demographic development and (c) eInclusion in relation to online services. Tangible outputs include policy roadmaps developed for each of these themes, and detailed recommendations of measures to be pursued by the European Commission and other stakeholders.

Executive Summary

The transformation of Europe into an Information Society represents one of the most significant socio-technological trends since the Industrial Revolution. It is a key policy goal of the European Union to give every citizen the opportunity to participate in the Information Society and benefit from it.

Responsibility for eInclusion and eAccessibility issues in Europe is split across policy fields ranging from telecommunications to social services and between central EU bodies, Member States and regions according to principles of subsidiarity. The recent expansion of the EU, though it aggravates the danger of duplication of effort in the field, is also generating more opportunities for policy makers to learn from each other's successes.

The eInclusion@EU coordination action is a response to the need for dialogue and coordination as well as to policy-makers' requirements for a consistent knowledge base. As graphically summarised by Exhibit 1 below, throughout the project's life cycle a multi-staged work programme has been pursued as follows:

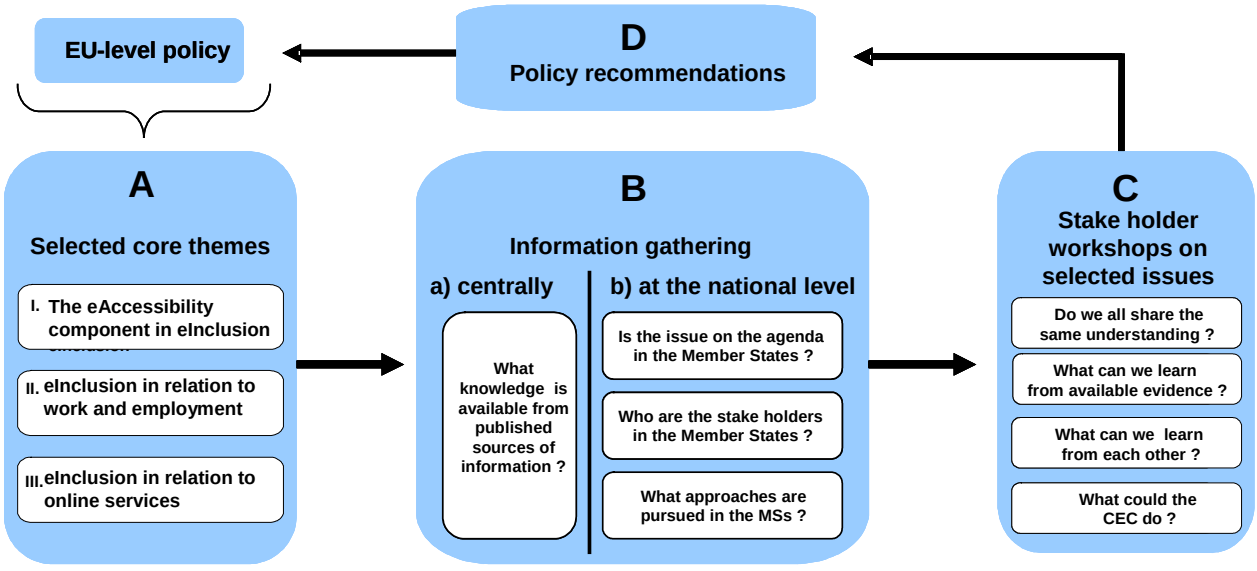
A) identification of core themes for detailed attention in the project,

B) collation and analysis of policy-relevant information,

C) convening and facilitation of workshops to support informed dialogue amongst the relevant stakeholders,

D) and on the basis of all this, preparation of evidence-based policy roadmaps on the key topics to inform future EU policy.

Exhibit 1– The eInclusion@EU coordination approach



As the eInclusion domain is a very broad-ranging and complex one no single project such as eInclusion@EU could attempt to cover this field in its entirety. Clearly, there was a need to focus the project on some specific issues where some real value-added can be contributed. Based on an initial analysis of the field of enquiry, it was therefore decided in consultation with the Commission to pay detailed attention to three core topics as follows

- eAccessibility issues emerging from the eEurope 2005 Action Plan and subsequent policy initiatives, specifically endeavours to make online content, telecommunications services and broadcasting services accessible for people with disabilities

- eInclusion in relation to employment and work, in particular the utilisation of the power of Information Society Technologies (IST) to achieve wider labour force participation among older people and informal carers.
- eInclusion in relation to online services such as eGovernment, eHealth, eLearning and eCommerce.

Based of the work programme outlined above, for each of these main themes key lines of possible action have been identified, including recommendations of concrete measures to be pursued by the European Commission and other stakeholders. In the following key action lines for policy in the filed of eInclusion are outlined according to the three main themes addressed in the project. Concrete measures that should be pursued along these lines are recommended in the main report.

Main theme I: The eAccessibility component in eInclusion

Reinforcing and increasing the impacts of existing measures:

Currently there are EU-level measures in place that address a number of themes, including accessibility of public web sites, public procurement, employment equality and telecommunications. The evidence indicates that EU-driven actions are needed to reinforce these provisions and increase their impacts at the Member State level.

More urgency in important current initiatives:

There are also some current initiatives on the agenda that are not progressing as quickly as might be desired, including the fulfilment of Mandate 376 on public procurement by the Standards Organisations and the TCAM work on mainstreaming accessibility solutions in telecommunications. More urgency needs to be injected into these activities to reflect the high policy importance that is now attached to eAccessibility.

Review and updating of "legacy" policies:

Some of the current EU-level eAccessibility measures can be considered to be "legacy" provisions, implemented as add-ons in the context of regulatory measures where the main pre-occupations were with internal market (e.g. public procurement) and competition (e.g. telecommunications) concerns. These are now at variance with the much higher policy importance of eAccessibility in the EU today and stronger measures need to be put in place.

Addressing gaps in coverage of key sectors:

There are gaps and inconsistencies in the current coverage of EU-level measures in terms of the sectors that are addressed. For example, the telecommunications sector is addressed (even if the current measures need considerable improvement) whereas there are no EU-wide eAccessibility measures addressing the broadcasting sector. Such inconsistencies and gaps must now be rectified.

Better invocation of the EU's equality competence:

The Amsterdam Treaty provides a strong competence for the EU in the equality field. This now needs to be brought to bear in a concerted manner on the eAccessibility theme, including specific equality measures that address eAccessibility and invocation of the equality dimension in other policy areas that impact on eAccessibility.

A more comprehensive and co-ordinated approach:

The current set of measures that address eAccessibility are something of a patchwork and this does not help the achievement of a high level of eAccessibility across all relevant sectors and all Member States. A more comprehensive and co-ordinated approach needs to be put in place, through implementation of an appropriate cross-cutting "eAccessibility" instrument at the EU-level.

Impact assessment:

It is already clear from the work of the eInclusion@EU project and other studies that the impact of current EU-level eAccessibility measures has been variable across the Member States and, generally, quite limited to date. The MeAC study will provide deeper measures in this area than have been available to date. In addition to this, measures of the actual experience of eAccessibility by disabled and older people themselves need to be developed and applied within impact assessment. There is also a need for attention to be given to cost-benefit issues. However, evidence from studies in the US and the more limited available evidence from the EU suggest that costs of eAccessibility for industry and others are typically very low. A more useful contribution may come from quantification of the benefits that can accrue from eAccessibility for the various parties affected, including industry. An initiative by the EU to elaborate the business case for eAccessibility would now be very helpful.

Main theme II: eInclusion in relation to work and employment of older people

Increasing labour market participation among older workers:

To increase labour market participation among older workers is a key policy goal pursued by the European Union and many national governments in relation to the demographic change. In general, this goal is being addressed through a range of policy approaches such as legal measures against age discrimination, elimination of financial and fiscal disincentives with regard to employment at higher age and various measures against early retirement. However only few measures make explicit reference to the potential role ICT can play in this regard. The main leverage points that have been addressed so far – albeit not necessarily under the eInclusion flag - refer to ICT skills and to the possibility of ICT-related support of older peoples' workability and employability. Against this background, there would be merit in giving these and other relevant ICT related aspects more focused attention at the European level, especially at the side of the European Commission and the EU-level umbrella organisations of the social partners.

Shaping age-friendly workplaces and working conditions:

In general ICT holds potentials to flexibly adapt working environments according to the changing capacities and abilities of older workers, but also to shape the working conditions in directions of better correspondence with the needs and preferences of older workers. ICT on its own may not be a "killer application", but exploitation of the age-friendliness potential of technological change will be an important element of the overall set of supports that are needed to support work place related strategies directed towards active ageing. Again, there would be merit in giving these aspects focused EU-level attention at the side of the European Commission and the social partners. Also, the ICT industry and service providers as well as user organisations would have a contribution to make.

Facilitating individualised pathways from employment into retirement:

The potentials generally provided by ICTs in relation to individualising pathways from employment into retirement refer to their inherent capacities to support (i) spatial and temporal flexibility and autonomy of work, (ii) access to flexible and individual work-life arrangements, (iii) part-time employment at higher age and (iv) the general permeability between the employment and retirement sector. This aspect has not yet received much attention in relevant policy debates. A focused EU-level effort directed towards better bringing to bear the potentials generally provided by ICTs on the transition towards more flexible working arrangements for older workers, e.g. through knowledge sharing and mutual learning among relevant the key actors, would be helpful in shaping developments into the desired direction and avoiding undesired effects.

Improving work-life balance and occupational opportunities of informal carers of older people:

Up to now, academic and policy debates circling around the demographic change have largely ignored the fact that informal carers are at high risk of exclusion from social networks in general and the labour market in particular due to the caring duties they have assumed. There are however examples that demonstrate how ICT can support informal carers in better coping with their difficult situation, although this aspect has generally not yet received much attention within the independent living RTD arena. The main leverage points that have been addressed so far refer to the spatial flexibility of working arrangements that can be supported by ICT and to ICT-enabled support carers can get when it comes to better reconciling their working and caring duties. Again there would be merit in a focused EU-level effort directed towards bringing to bear the potentials generally provided by ICTs on a better tailoring of occupational arrangements and supportive services to the needs of informal careres.

Main theme III: eInclusion in relation to online services

Ensuring affordability of home access to online media:

The issue of affordability is an area that warrants EU-level attention. There is a need for better understanding to what extent cost barriers do actually hold at-risk groups back from engaging in online services across the Member States and what the most effective mechanisms to address these barriers are, particularity when it comes to services that are of public interest.

Supporting coherent implementation of web accessibility policies that have started to emerge across the EU:

So far, existing “top-down” policies directed towards accessibility of web content and services for people with functional restrictions (e.g. regulation/legislation) do not seem to have “trickled down” to the implementation level to a sufficient extent, one reason being that effective reinforcement mechanisms are still lacking. There is an important “bottom up” dimension to this issue concerning lacking awareness, prioritisation and skills among those actor groupings that usually interact with the citizen in online mode.

Consolidating existing knowledge and expertise in the field of eAccessibility and usability with a specific focus on inclusive online services provision in converging technology environments:

The online world continues to develop apace, and new eAccessibility challenges that have not yet been reflected by existing web accessibility standards such as WAICAG 1.0 continue to emerge. There is a need to consolidate and were required extend existing knowledge in

the field of eAccessibility – and usability as well - with a particular focus on inclusive online services provision in converging technology environments, and based on this to identify gaps that may need to be closed by means of further research efforts.

Ensuring continued access to services of public interest:

The increasing utilisation of ICT to deliver public services (especially eGovernment and eHealth) brings an eInclusion dimension to the debate on the protection of so called "services of public interest". Issues of concern include making sure that online services are accessible for and usable by at-risk groups as well as ensuring that those citizens who are not online have equal access to services of public interest.

Identifying and tackling key policy challenges imposed by emerging "second-order divides" in the virtual space:

With increasing levels of Internet deployment, considerable disparities tend to emerge in relation to the ability of different population groups to fully avail the opportunities presented to them in relation to online access to useful services of public interest, eHealth and eLearning services for instance. This trend has an important policy dimension as it points to the risk that increasing levels of Internet penetration in conjunction with provision of services of public interest in online mode ultimately lead to a widening rather than a narrowing of social divides in society.

"Braining-up" of current benchmarking and monitoring efforts to support more targeted eInclusion policy formulation and implementation:

There is a lack of sufficiently differentiated information on types and levels of digital exclusion needed to adequately inform eInclusion policy formulation and implementation processes. There is a strong need for tracking progress and monitoring developments related to the diffusion of online services in all aspects of life, and in relation to the impacts this trend has on the circumstances of vulnerable groups in particular. In addition, proactive eInclusion policy needs to be enabled to make sense of upcoming developments that may represent new challenges to eInclusion through availability of evidence respectively.

Leveraging online services to enable vulnerable people to live independent in the community:

There has been a substantial amount of RTD in the field of independent living which has to a large extent been stimulated by support under the subsequent EU Framework Programmes for RTD. However, market structures prevailing in the care domain have tended to hamper wider deployment of many solutions that have proved useful in experimental settings. Whilst respect to subsidiary must be maintained when it comes to policy intervention concerning the care sector, there is a role for an EU-driven effort to improve uptake of solutions that are already available today and to better bring further technology innovation to bear on current practices in the Member States.

Better gearing eInclusion measures towards social inclusion goals:

A variety of practical experimentation with eInclusion measures is now happening across the Member States. Although most of the initiatives appear to have significant merit in their own right, the overall impression is one of a lack of a real strategic articulation of and integration of the eInclusion theme within the broader social inclusion agenda. Whilst it is clear that bottom-up activity has a central role to play when it comes to social inclusion and that respect to subsidiary must be maintained in the field of social policy intervention, there would be merit in an EU-driven effort directed towards facilitating consistency and quality of outcomes in order to help focusing efforts and resources on those types of measures that can contribute most to social inclusion.

Leveraging leading edge technology developments to facilitate service innovation in the social arena:

Traditionally, in the social arena levels of awareness of technology as an enabler of innovation in services provision have been rather low. As a consequence experimentation with ICT solutions in the social arena has trended to largely focus on doing traditional things with help of ICT rather than exploiting the inherent capacities of new technologies to do entirely new things, and thereby increasing desired impacts. When compared with other domains such as the health arena for instance, the issue of ICT-enabled service innovation has not yet received much attention in academic circles and among practitioners in the social sector. There would be merit in an EU-driven effort to encourage experimentation with online technologies with a focus on stimulating the development of innovative service concepts in relation to both client-facing activities and processes located at the "back-office" level.

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1 Introduction

The transformation of Europe into an Information Society represents one of the most significant socio-technological trends since the Industrial Revolution. It is a key policy goal of the European Union to give every citizen the opportunity to participate in the Information Society and benefit from it.

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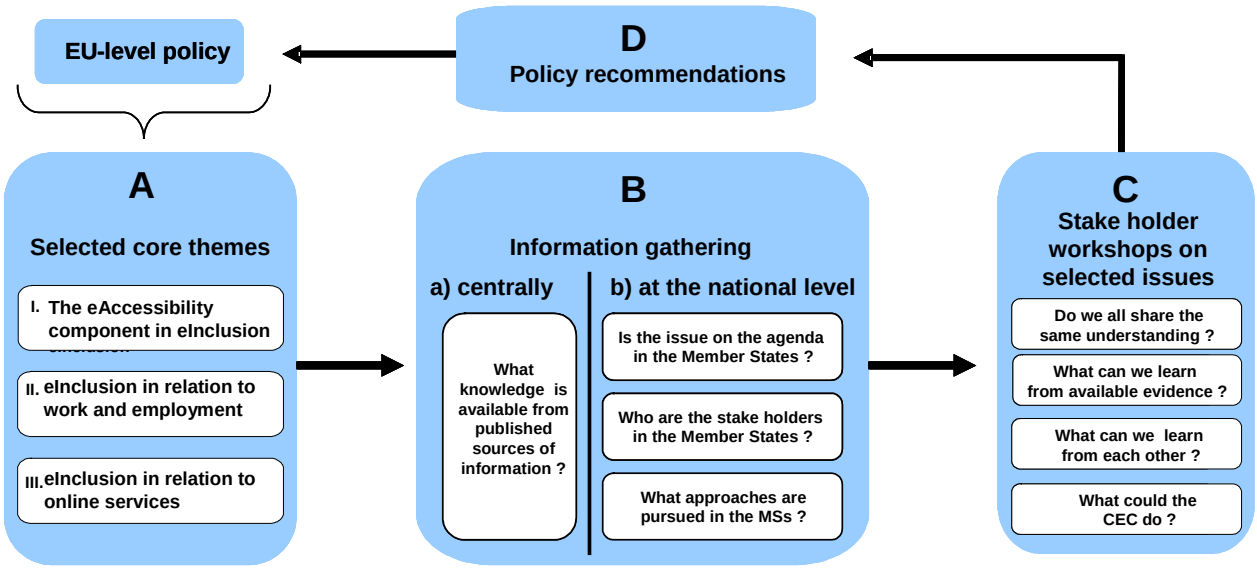

The roadmaps on each theme outline frameworks for European policy and action on eInclusion that address both the near-term and medium-term timeframes. To reflect this, the proposed policy-related actions are organised into three categories:

- policy-related measures addressing issues where the current situation and required actions are currently quite well understood and should therefore be addressed as soon as possible

- preparatory research and / or consultative actions addressing issues that are currently less well-understood and where such preparatory work is needed to help chart the best path
- policy measures to be considered based on the results of the preparatory activities.

The reminder of this document presents the main outcomes generated throughout the work programme outlined above, the focus being on the conceptual work carried out during the project's start-up phase and the outcomes of the informed stake holder dialogue pursued throughout the overall project. This starts with a conceptual outline of the eInclusion domain as a dedicated field of policy attention (Chapter 2). Following to this, three key themes that have been selected for detailed attention within the project are presented in terms of a brief outline of issues that deserve policy attention, the stakeholder dialogue pursued in this regard and recommendations for policy action respectively. This includes the following main themes

- the eAccessibility component in eInclusion (Chapter 3),
- eInclusion in relation to work and employment (Chapter 4),
- eInclusion in relation to online services (Chapter 5).

Finally, a list of reports available from the project is provided for those readers who are interested in a more detailed follow-up of the project's outcomes as they are presented here (Chapter 6).

2 Conceptual framework for an informed stakeholder dialogue on eInclusion

The start-up phase of the project focused on the preparation of a conceptual basis for the stake holder dialogue to be pursued during the reminder of the overall project. To this end, relevant scientific and policy debate on eInclusion and eAccessibility was incorporated in a single framework enabling common understandings for the coordination process and helping define the scope of appropriate Europe-wide dialogue between key actors. In the following, this is discussed in more detail.

2.1 eInclusion as a dedicated field of European-level policy formulation

Today, growing parts of the population live and work in digitally 'networked' environments and engage in new forms of Information and Communication Technology (ICT) -mediated communication, collaboration, production and consumption. Doing things with the help of ICT is no longer limited to specialists, and many day to day activities are undergoing quite fundamental changes.

A wide range of ICT-based applications, services and activities are now emerging, and provision of commercial and public services via the Internet is gaining momentum: eGovernment, eHealth, eLearning and eCommerce applications are showing increasing maturity and acceptance by a growing proportion of the population. In the working sphere, computers and new ICT-based tools are becoming widespread, and they increasingly impact on the way people make their living. In the public sphere, touch screen information and self-service kiosks are becoming ubiquitous. Also, for an ever increasing part of the population, mobile telephony is becoming fully integrated in all aspects of daily life while enhanced capabilities such as localisation and multi-media features are beginning to transform the mobile phone from a mere communication tool into a multifunction device.

At the onset of these trends the European Union embarked on the so-called Lisbon strategy, with the goal of becoming "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion."[1] The relatively new field of eInclusion policy is fundamentally concerned with ensuring that development towards the Lisbon objectives really achieves a knowledge-based society which is cohesive and socially sustainable. More specifically, it is concerned with ensuring that everyone is included in and gains from developments enabled by ICT. Studies by the eInclusion@EU project have shown that a three-fold approach needs to be adopted to ensure these aims are met; policy should be addressed to:

1) **combating digital exclusion of specific groups (risk perspective)**, i.e. enabling all citizens to utilise the tools and applications of the Information Society - independently of their functional and mental abilities, their health status, their age, their gender, their income and socio-economic status, the place where they live, or any other structural life circumstance or personal characteristic that may hinder them in doing so. In this regard, two areas can be distinguished: On the one hand existing risks of eExclusion, e.g. in terms of barriers to access and usage of ICT for people with functional restrictions or those who lack required skills (e.g. people with disabilities and parts of

[1] Lisbon European Council, Presidency Conclusions, Lisbon European Council 23 and 24 March 2000, Online available at: http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/00100-r1.en0.htm

the ageing population). On the other hand, risks of new forms of exclusion emerge that can be directly traced to ICT.

2) **exploiting ICT opportunities for social cohesion (opportunities perspective)**, i.e. exploiting the potential of a knowledge-based society to fully integrate formerly socially excluded population groups (e.g. people living in poverty) and those at-risk of exclusion (e.g. parts of the ageing population), including enabling at-risk individuals to take their own steps to improve their situation with the help of ICT-based services. In relation to this, three core issues need to be addressed: 1) Determining how to exploit practical opportunities offered by ICT in order to support social inclusion of at-risk groups, e.g. in terms of better access to employment; 2) Identifying ways of exploiting ICT for the purpose of empowering at-risk individuals to take their own steps to improve their situation, e.g. in terms of networking with others who are in a similar situation and 3) exploring how to exploit ICT to improve the situation of communities at risk of social exclusion, e.g. by utilising ICT for building up social capital in deprived communities.

3) **promoting inclusive processes of ICT development and deployment (structural perspective)**, i.e. ensuring that ICT development (e.g. new applications emerging in the context of converging media platforms) and deployment processes (e.g. in the health and educational sectors) that shape our reality in a maturing knowledge-based society adequately consider the needs and requirements of population groups that are structurally disadvantaged (e.g. in relations to the aging population and other groups with particular user requirements, through the consistent consideration of the so called design-for-all philosophy at all stages of the development and deployment process). In relation to the promotion of inclusive ICT development and introduction processes, the following issues need to be addressed: 1) How to shape ICT innovations according to the interests and needs of wider social groups that do not belong to the usual groups of early adopters, e.g. by means of ICT standardisation directed towards ensuring that disabled people are part of the early adopters and 2) How to ensure that the deployment of ICTs in areas of public interest such as health care and education adequately consider the needs and requirements of disadvantaged population groups, e.g. people with functional restrictions or low reading skills).

2.2 Generic framework for eInclusion related policy intervention

Some aspects of eInclusion have already been reflected in European policy statements. Most recently perhaps the i2010 initiative set the explicit goal to give every Union citizen the opportunity to participate in the knowledge-based society. As early as October 2000, at the inception of the Lisbon strategy, the European Council emphasised inclusion in respect of ICT, stating that "it is a precondition for better economic performance that we create a society with greater social cohesion and less exclusion. [...] The emergence of new information and communication technologies constitutes an exceptional opportunity, provided that the risk of creating an ever-widening gap between those who have access to the new knowledge and those who do not is avoided."[2] Some issues related to eInclusion have been addressed – albeit under different headings and with reference to different aspects – in other policy areas, for instance:

- as part of the EU's information society policy, particularly in the framework of the eEurope initiatives, under the heading of "participation in the knowledge-based society", and in FP6/IST under the heading of "eInclusion",

[2] http://ec.europa.eu/employment_social/social_inclusion/docs/approb_en.pdf

- as part of standards policy (for example in mandates given to the technical standards bodies ETSI and CEN/CENELEC in relation to accessibility standards for telecommunications equipment),
- in telecommunications policy (in the provisions in the Universal Service Directive in relation to meeting the needs of those on low incomes and of disabled people),
- in the context of the general social policy of the EU, mainly under the headings of "fight against poverty and social exclusion", "equal opportunities", "disability" and "ageing",
- to some extent also as part of education policy, under the heading of "e-learning" and "digital literacy", with the objective of ensuring that Europe's youth is digitally literate when leaving school and that everyone has the opportunity to become digitally literate (e.g. ECDL, life-long learning),
- as part of EU health policy, mainly with the objective of making available quality eHealth services for all.

It is clear that many different policy areas are relevant for addressing eInclusion. However, it is equally clear that there is a need better to coordinate these various policies to ensure that synergies are realised and that the overall impact is more effective. This is something that has already been well recognised by the European Commission. For example, the Commission's review of European and national level activities in relation to eAccessibility identified three main levels of policy attention and associated practical instruments - technical/standards instruments, legislative/persuasive instruments, and educative/informative instruments - but concluded that there is a need for a more co-ordinated and focussed approach to be taken by the key players involved in eAccessibility initiatives and in the application and development of existing and new instruments in the three areas. There is also a need for co-ordination to resolve conflicts between different policy strands. For example, the desire to avoid market distortion could weaken the provisions for inclusion and accessibility that are under discussion in relation to the universal service directives.

Exhibit 3 below provides an overview of how some of the issues, once the evidence base has been improved, can be addressed by practical eInclusion measures and approaches. The table is not intended to serve as an exhaustive mapping of the eInclusion territory in terms of mutually district thematic categories. Rather, it is intended to serve as a useful starting point for a broader discussion on the possibilities for practical policy intervention in the field of eInclusion.

Exhibit 3- Overview over eInclusion measures and approaches

Perspective	*eInclusion issues*		*Potential eInclusion measures/approach*
Combating eExclusion	Removal of existing barriers	Awareness/ motivation	Demand side measures aiming to raise awareness and encourage interest amongst late adopters
		Availability/ affordability	Demand / supply side measures aiming to remove tangible, practical barriers
		Digital literacy	Demand side measures aiming to provide eSkills
		eAccessibility	Supply side measures to ensure that people with disabilities and others with functional difficulties can access ICTs
		eService usability	Supply side measures to ensure that all groups, especially at-risk groups, can use online services
	Avoidance of new risks	Alternative modes of access	Supply side measures to ensure that important services remain available to those who are not online
		Avoiding social isolation	Measures to ensure that increasing virtualisation does not lead to social isolation of vulnerable persons

Perspective	eInclusion issues		Potential eInclusion measures/approach
		Avoiding second order divides	Demand side awareness-raising and eSkills measures to help people get real benefits from online opportunities
Exploiting ICT opportunities	Practical opportunities	Access to employment	Demand and supply side measures to give at-risk groups better opportunities in employment
		Distance bridging	Demand and supply side measures to exploit the inherent properties of ICTs to bridge constraints of distance (and time)
		Relevant content / services	Supply side measures to develop content and services that is really relevant to the needs of those at-risk of exclusion; includes services that support independent living (e.g. telecare) for older and disabled people
	Empower-ment	Networking	Measures to exploit the networking capabilities of ICTs to empower at-risk groups to address their own needs
		eDemocracy	Measures to facilitate more engagement and more effective engagement / influence of at-risk groups in all aspects of politics and governance
		eLearning	Measures to facilitate self-directed personal development and lifelong learning for at-risk groups
		Content creation	Measures to facilitate at-risk groups to become content creators, not just consumers of content created by others
		NGO support	Measures to help NGOs exploit ICT in support of their work with at-risk groups
	Community / society oriented	Online communities	Measures to encourage the deployment and utilisation of ICT amongst at-risk communities
		Cohesion oriented	Wider initiatives aiming to use ICT to spread knowledge, appreciation of and interaction between different groups across society
Promoting inclusive processes in ICT development and deployment	ICT development processes	Awareness and skills of ICT developers	Measures to encourage and enable ICT developers to better consider the needs of population groups at risk of eExclusion
		ICT standardisation	Facilitating the dialogue between users and ICT industry within standardisation processes/bodies
	ICT deployment processes	Non desirable impacts of ICT utilisation in public service provision	Measures providing guidance in relation to non-desired impacts of ICT deployment on groups at risk of eExclusion
		Monitoring achievements and identifying shortcomings	Measures directed towards monitoring and benchmarking eInclusion in relation to specific fields of ICT deployment such as online provision of public services

3 Key outcomes of the eInclusion stakeholder dialogue

As the eInclusion domain is a very broad-ranging and complex one no single project such as eInclusion@EU could attempt to cover this field in its entirety. Clearly, there was a need to focus the project on some specific issues where some real value-added can be contributed. Based on an initial analysis of the field of enquiry, it was therefore decided in consultation with the Commission to pay detailed attention to three core topics as follows

- eAccessibility issues emerging from the eEurope 2005 Action Plan and subsequent policy initiatives, specifically endeavours to make online content, telecommunications services and broadcasting services accessible for people with disabilities
- eInclusion in relation to employment and work, in particular the utilisation of the power of Information Society Technologies (IST) to achieve wider labour force participation among older people and informal carers.
- eInclusion in relation to online services such as eGovernment, eHealth, eLearning and eCommerce.

In the following sections, key results of the stakeholder dialogue pursued in relation to these core themes are presented.

3.1 eAccessibility as a crucial component of eInclusion

“eAccessibility" concerns the design of ICT based products and services in a manner that ensures that they can be used by people with disabilities and by older people with age-related changes in functional capacities. It is a crucial component of eInclusion and one that will become even more important as the European population ages.

eAccessibility problems and solutions

eAccessibility issues arise when the content, functions or other features of ICT products and services pose problems of access and usage for people with disabilities and older people. Some examples of the spectrum of eAccessibility problems and solutions for different disabilities are outlined below:

Visual impairments: People with visual impairments may experience barriers to using visual services, content and features; for example: web sites; visual displays and visual status indicators on computers, mobile phones, bank machines and other devices; paper telephone directories; the video content of TV broadcasts / videocassettes / DVDs; teletext and subtitles on TV. eAccessibility solutions include designing ICT products and services so that the visual presentation can be adjusted by the user to meet their needs (e.g. font type and size, contrast, use of colours); provision of speech, audio or other output modes as alternatives to visual displays and to visual status indicators on ICT products; provision of an additional audio channel / track to narrate the visual content in TV broadcasts / videocassettes / DVDs; ensuring that ICT products and services are designed so that they are compatible with the assistive technologies that many people with visual impairments use (e.g. text-to-speech software and related products).

Hearing impairments: People with hearing impairments may experience barriers to using voice-based and other audio-based services, content and features; for example: voice telephony; the sound content in TV broadcasts/ videocassettes/ DVDs; audio signals that indicate system status; interference on hearing aids caused by mobile phones.

eAccessibility solutions include ensuring that audio outputs are adjustable in volume and quality; provision of visual or other (e.g. vibrating) output modes as alternatives to audio signals; telecommunications services that enable real-time communication in whatever medium is most suitable for the user (voice, text or video); provision of text telephones to provide an alternative to voice telephony (or videophones to enable communication by sign language for those who use this medium) and text telephone relay services that provide an operator service to enable users of text telephones to communicate with users of ordinary voice telephones; provision of text captions to enable deaf people to follow the audio component of TV/ videos/ DVDs; design of mobile phones to minimise interference on hearing aids; ensuring that ICT products and services are designed so that they are compatible with the assistive technologies that many people with hearing impairments use (e.g. hearing aids).

Speech impairments: People with speech impairments may experience difficulties in using voice-based services, for example, the voice telephone and interactive voice services. eAccessibility solutions include provision of text telephone and text telephone relay services, and alternatives to speech input in interactive voice systems.

Mobility impairments: People with dexterity impairments may experience difficulties with interfaces requiring fine manipulation (e.g. computer mouse, small keyboards or number pads). People who use wheelchairs or who have other forms of mobility impairment may experience difficulties in gaining physical access to relevant services (e.g. public telephones, bank machines). eAccessibility solutions include design of public telephones, bank machines, ticket machines and information kiosks so that they are accessible to wheelchair users; design of keypads, touch screens and other interface devices to cater for people with dexterity problems (e.g. larger and better spaced buttons, less sensitive keys); design of ICT products so that they are compatible with the assistive technologies that are commonly used by people with dexterity problems (e.g. alternative input devices).

Cognitive impairments or age-related changes in cognition: People with cognitive impairments as well as people with age-related changes in memory, reaction speed or other areas may experience difficulties in understanding and using inappropriately designed or unnecessarily complex online services and ICT-based products and services. eAccessibility solutions include design of online services and other ICT-based products and services that are understandable and usable by people with cognitive impairments, and that accommodate age-related changes in information processing abilities.

As indicated above, the majority of eAccessibility barriers that exist today can be relatively easily solved if the relevant stakeholders make appropriate efforts. The examples show that such solutions can be 'mainstream' ones that implement accessibility right from the start in the design of the everyday ICT products and services of the Information Society or they can be special 'assistive' solutions whereby people with disabilities must use 'add-ons' to the everyday products and services used by everyone else. For reasons of economic efficiency, equality and common sense, the priority must be to ensure that mainstreaming of eAccessibility is achieved wherever possible.

Unfortunately, the reality in Europe today is that many of the key ICT products and services in everyday life present eAccessibility barriers to disabled and older people. Surveys have found that the majority of public and private web sites are still not designed in ways that meet the needs of people with visual impairments. The range and quality of provisions to ensure eAccessibility of telecoms services varies widely across the EU Member States and many people with hearing or speech impairments are either unable to use basic telephone services

at all or only have access to a much inferior service. A similar situation applies in relation to TV accessibility, seriously affecting many people with hearing and visual impairments. Accessibility of bank machines and other kiosks in public places is still a major problem for people with visual impairments and for many wheel-chair users. Very little attention is being given to the needs of people with cognitive impairments.

Current EU measures and their modes of influence on eAccessibility

Because of its social and economic importance, eAccessibility has been receiving increased policy attention in Europe and internationally in recent years. In Europe, the European Commission has stated that eAccessibility is "a social, ethical and political imperative"[3] as well as having a high economic and market importance. Reflecting this, eAccessibility has been established as a key element within the i2010 initiative and the Ministerial Council agreed on a series of significant eAccessibility measures at their meeting in Riga in June 2006.[4]

The current EU approach to eAccessibility encompasses a number of lines of activity across the various types of measure that fall within its competence. Some of the main measures and their modes of operation are schematically outlined in Exhibit 4.

Exhibit 4- Main current EU measures on eAccessibility and their modes of influence

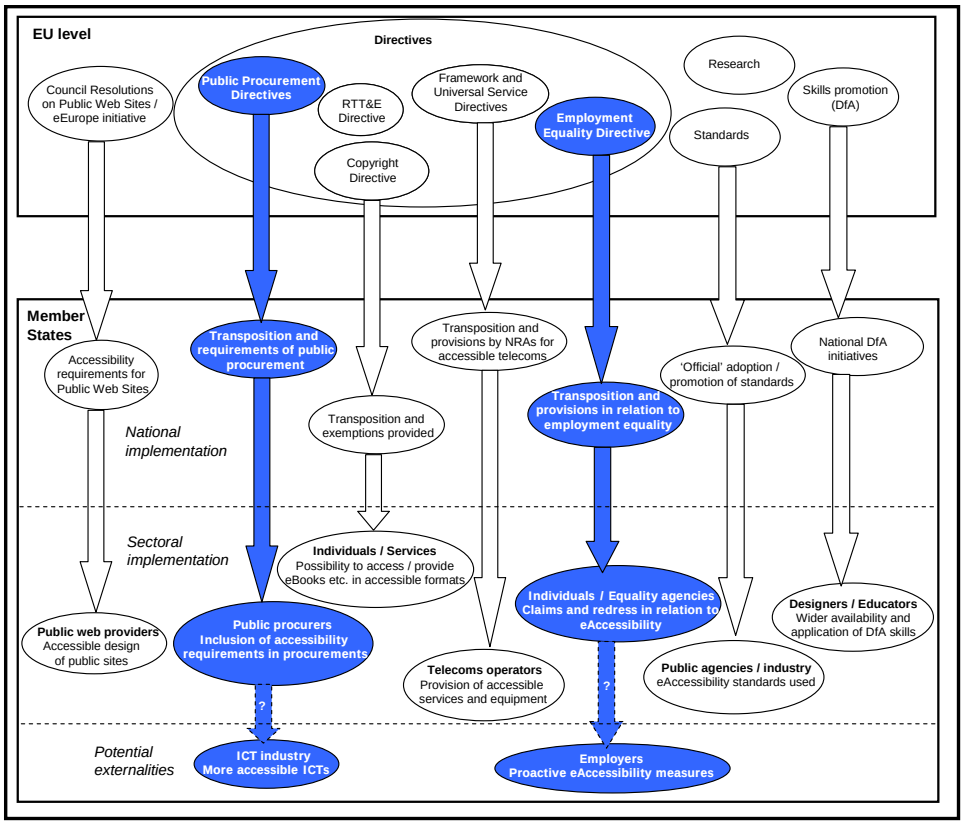

Exhibit 4 shows a number of different lines of activity at EU level, including Council Resolutions, Directives, standardisation work, and other actions in relation to skills and support for research. As might be expected, these EU measures primarily exert their influence through the Member States, first through national implementation and then through the follow-on implications that they have for the activities of various sectors. In some cases

[3] Communication on eAccessibility. COM(2005)425 final. Brussels 13.9.2005

[4] Ministerial Declaration, 11 June 2006, Riga, Latvia

the measures may ultimately have some additional externalities, for example, where the inclusion of eAccessibility in public procurement requirements triggers the development of more accessible ICTs by industry or where the existence of equality legislation prompts employers to take proactive measures in relation to eAccessibility in order to avoid the possibility of claims of discrimination down the line.

Selection of themes for focused attention

As indicated in Exhibit 4 there are quite a range of Directives and other measures that have relevance for the promotion of eAccessibility in Europe. Some of these directly and explicitly reference eAccessibility issues whereas others, such as the employment equality provisions, are less direct. Some impose specific obligations on the Member States (e.g. parts of the telecoms regulatory package and the employment equality directive) whereas others enable but do not require specific actions by the Member States (e.g. parts of the telecoms regulatory package, the procurement directives and the copyright directive).

Collectively the measures represent something of a patchwork, with attention given to some themes and sectors but not to others (e.g. telecoms are explicitly covered but many other ICTs are not, and the equality provisions currently focus on the field of employment but not goods and services). In addition, there has been relatively little in the way of co-ordination and inter-linkage of the EU measures to date; for example, there has yet to be any direct cross linkage of equality and telecoms provisions, or of equality and public procurement provisions.

Against this background, one theme taken up in the roadmap in Chapter 4 focuses on the development of a more comprehensive and co-ordinated EU-level coverage of the eAccessibility field, as well as on the support actions that are needed to ensure that the relevant EU-level measures are fully and effectively implemented at Member State level.

In addition to this, the project selected two specific policy themes for detailed attention in the 'evidenced-based support for stakeholder dialogue and policy formulation' methodology that was at the core of the project's approach. The selected themes are highlighted in Exhibit 3 and address, respectively:

- eAccessibility in public procurement,
- equality legislation and its synergies with specific sectoral obligations and other approaches in achieving eAccessibility.

In consultation with the Commission services, these two themes were identified as ones where the project's approach would have the most value at this stage of the evolution of European eAccessibility policy. Other important policy themes were also considered, such as web accessibility[5] and telecoms accessibility[6] but these were already being addressed in other forums. The RTT&E Directive was not considered to be a suitable theme for the project's approach given that its (potential) mode of influence is somewhat different to that of the other Directives, requiring a decision to be made to invoke the eAccessibility clause (3.3f) in a manner yet to be defined.[7] The eAccessibility dimension of the EU's Copyright Directive was considered as a possible theme for detailed attention but a feasibility study in the nine partner countries represented in the core project team suggested that the field was not

[5] various initiatives were already underway in relation to accessibility of public web sites, including the Support-EAM project, the UK Presidency survey of public web site accessibility, and so on

[6] the COST 219 project has contributed a lot in this field over the years; more recently the INCOM sub-group under the EU's COCOM group has prepared surveys and reports on this theme

[7] This is currently being examined by TCAM (Telecommunications Conformity Assessment and Market Surveillance Committee), the standing Committee assisting the Commission in the management of Directive 99/5/EC.

currently a well formed one and so would be unlikely to provide value-for-effort within the frame of the resources and scope of the project.

3.1.1 Activities pursued in the Member States

eAccessibility in public procurement

In Europe, public procurement in each of the 25 Member States must follow the rules outlined in the EU's Public Procurement Directives. The primary purpose of these Directives is to ensure that there is a properly functioning internal market so that suppliers from any Member State can have equal access to the public procurement markets in any other Member State. More recently attention has begun to be given to how these instruments can be used to further other objectives of public policy, including environmental and social objectives. In this context, revisions have been made to the Directives that, inter alia, encourage the inclusion of accessibility criteria in public procurement by the Member States.

The preambles to the revised Directives (paragraph 29 of Directive 2004/18/EC and paragraph 42 of Directive 2004/17/EC) now state that:

> "Contracting authorities should, whenever possible, lay down technical specifications so as to take into account accessibility criteria for people with disabilities or design for all users."

In addition, the specific Articles on technical specifications (Article 23, Paragraph 1 of Directive 2004/18/EC and Article 34, Paragraph 1 of Directive 2004/17/EC) now state that:

> "Whenever possible [these] technical specifications should be defined so as to take into account accessibility criteria for people with disabilities or design for all users."

An earlier clarifying Communication from the European Commission[8] provided a variety of examples of how such eAccessibility criteria might be addressed in practice.

The eInclusion@EU survey of the situation in the Member States found that eAccessibility was generally not yet being directly addressed in procurement legislation or regulations at that time (end of 2004). However, some form of reference to procurement of accessible ICTs could be found in a variety of other policy contexts, including eGovernment-related initiatives, information society legislation and policy, equality legislation, disability legislation and policy, and legislation with a specific focus on accessibility. Toolkits and other supports for procurers were available or under development in a few countries.

Overall, there was a considerable diversity across the Member States in terms of whether there was any relevant activity at all in relation to eAccessibility in public procurement and, if there was, in the nature of such activity. In practical terms, most attention so far was on procurements relating to web accessibility, but some countries were also giving attention to a wider spectrum of ICTs. In general there was still only a low level of awareness of the potential and importance of addressing accessibility in public procurement; this was especially the case amongst procurers but also amongst policy makers and, in some countries, amongst disability organisations. Other potential barriers included:

- lack of skills in relation to accessibility amongst procurers
- lack of suitable standards / guidelines / toolkits for procurers
- difficulty in implementing available standards / guidelines
- attitudes / perceptions of procurers.

[8] Interpretative Communication of the Commission on the Community law applicable to public procurement and the possibilities for integrating social considerations into public procurement – COM (2001) 566 Final; 15.10.2001

On the basis of the empirical evidence, it was concluded that to progress things in Europe, the following actions were needed:

- strong national transpositions of the EU Directives
- exchange of experience / good practice
- suitable (internationally harmonised) standards to reference
- toolkits and other technical supports for procurers
- increased awareness in policy (and disability organisations)
- awareness-raising and training of procurers (and consultants)
- broadening of current focus on web accessibility to address other ICTs and to encompass Design for All issues for the wider range of users who can benefit
- research and dissemination on costs and benefits
- shift of emphasis towards proactive rather than reactive approaches to accessibility.

Equality legislation and its synergies with specific sectoral obligations and other approaches in achieving eAccessibility

As noted earlier, the eAccessibility legislative and regulatory landscape at both European and Member State levels is quite a diverse one. At the European level, several Directives have been implemented that have potential implications for eAccessibility, covering a number of different sectors and different modes of (potential) influence on eAccessibility. At Member State level, there can be considerable variation both in the ways that the Directives are transposed into national legislation and in the extent to which the eAccessibility dimension is actively pursued through regulatory or other actions. In addition, there appears to be considerable diversity across the Member States in the nature and extent of legislative and regulatory approaches to eAccessibility originating in their own national contexts.

In Europe and elsewhere, equality and anti-discrimination legislation is increasingly being implemented to address the needs of people with disabilities. As a result of the EU Directive (2000/78/EC) on “Establishing a general framework for equal treatment in employment and occupation", European Member States have implemented or will implement equality legislation in the field of employment. People with disabilities are specifically included within the scope of this, along with other groups that may experience discrimination (for example, in relation to age). The EU Directive includes a requirement that employers make "reasonable accommodations" to ensure equality of access to employment for people with disabilities. and the Preamble mentions adaptation of equipment amongst the examples of potentially relevant measures. Some Member States have also implemented legislation on equality of access to goods and services, in some cases making direct reference to ICT technologies and services.

One of the aims of this part of the work of the eInclusion@EU project was to assess the overall extent of attention to eAccessibility in the equality and anti-discrimination context, across Europe and internationally. In addition, the analysis aimed to examine possible synergies between these approaches and other measures such as public procurement, universal service in telecommunications, other forms of direct obligations on the ICT industry, and assistive technology services.

Employment equality

Only a small number of countries had legislation making direct reference to the eAccessibility theme either in employment equality laws that have implemented the EU Directive or in laws

that have otherwise emerged in the national context There is considerable variation in the degree of 'readiness' of the European countries to address eAccessibility in the employment equality context:

- substantial variation across the Member States in the extent and quality of public Assistive Technology services aiming to support people with disabilities in the workplace
- wide variations across countries in the legal basis and levels of development of redress mechanisms; only a very small number of employment equality cases incorporating an eAccessibility dimension have been taken so far in Europe.

Equality of access to goods and services

Only a few countries have legislation that makes direct reference to the eAccessibility theme; where such laws do exist they generally apply to public services and, in particular, to public web sites; only a very few countries had legislation referring to eAccessibility of private web services or other ICT-based products or services.

Many countries do have laws or other measures that address eAccessibility of public services although not emanating from the equality approach, per se.

The main conclusions in relation to the employment equality field were that eAccessibility needs increased visibility in this context in the Member states; that a shared view is needed across the Member States on the scope of reasonable accommodations and on the place of eAccessibility in this; and that links between equality laws and assistive technology services need development. As regards eAccessibility in access to goods and services, it was concluded that Member States need a better understanding of how the equality approach can contribute to this and of how this can work to enhance other (positive duty) approaches that are emerging in the eGovernment and other fields.

3.1.2 Stakeholder workshops

The first major stakeholder consultation exercise was undertaken through an international workshop on *Accessibility Requirements for Public Procurement in the ICT Domain*, held in Brussels on October 19-21, 2004.[9] It's stated aim was:

> *to identify how the standardisation process can be used to set up harmonised requirements and how legislation can be used to implement the use of ICT public procurement to support accessibility to the information society by people with disabilities and older persons.*

The organising committee included the European Commission, the US Access Board, the European ICT Standards Board (ICTSB/DATSCG) and the European Disability Forum (EDF). The eInclusion@EU project provided key inputs to the workshop, including contributing to the development of the concept and identification of key stakeholders to be invited, preparation of briefing materials and active inputs to the event, rapporteur support, and preparation of the report on the workshop outcomes.

Key messages derived from workshop discussions include:

Including eAccessibility requirements in public	The European stakeholders gave a clear message that addressing eAccessibility through public procurement and basing this on EU-wide accessibility requirements was both desirable and possible.

[9] http://europa.eu.int/information_society/policy/accessibility/deploy/pubproc/ws-2004-10/a_documents/procurement_conference_report_fin.doc

procurement is both desirable and possible	eAccessibility has technical, economic, political and moral importance, and is a rights issue. It is a basic consumer right to have access to products and services. eAccessibility is central to the mainstreaming approach to eInclusion in eEurope 2005 and its importance will be reinforced with the new focus on innovation, creativity and inclusion in EU Information Society policy. Public procurement, involving expenditure of around 150 billion euro every year, is a key vehicle for achieving eAccessibility goals. There is an economic imperative for social inclusion and accessibility, in terms of increased employment and contribution to the economy and society by those who would otherwise be excluded. Therefore the analysis should shift from costs to cost-benefits. There are very significant benefits, and not just for people who would traditionally be considered to have disabilities; many people could benefit from better accessibility of ICTs in daily life and work.
Legislation and regulations	The impacts of the revised EU Directives will depend on the national approaches to their implementation, as well as on the attitudes of procurers and on the extent to which sectoral obligations are imposed. The current consultation on eProcurement might provide a context for awareness raising and getting accessibility onto the Member State agendas. Not only national, but also regional and local level procurements must be covered. The Member States also need to ensure that accessibility is included in procurements that are not covered by the Directives (because they are below the financial threshold). The EU Directives are minimum, enabling provisions and there is nothing to stop the national transpositions taking a stronger approach to accessibility in public procurement. National transpositions of the new Directives need to be carried out carefully and make specific reference to social criteria (and accessibility criteria in particular). They need to give clear indications on how the accessibility provisions are to be addressed in public procurement, including when accessibility requirements should be implemented and how this is to be validated. There is a need for harmonisation and for clear EU guidelines to be given to the Member States on what is expected in the context of the references to accessibility in the revised public procurement Directives. Consideration should be given to the possibility of the European Commission preparing a Public Procurement Handbook that would address issues such as how accessibility requirements can be implemented. Inclusion of requirements to address accessibility in licensing arrangements is also an important vehicle and should be developed. Consideration should also be given to including accessibility requirements in the rules governing the structural funds.
Harmonised accessibility standards	Harmonised accessibility requirements at European and international levels are needed if the potential to progress eAccessibility through public procurement is to be achieved. Both procurers and industry need these. There are clear benefits to be gained from a rights-based/user-oriented perspective that ensures that the same level of accessibility is available to different user populations (people with various disabilities, older people and others than can benefit) and throughout the EU and the wider world.

Harmonisation is required not just with respect to the procurement field but also across the variety of legislative and other contexts where eAccessibility is addressed. In the US, for example, the legislative and regulatory approach to eAccessibility includes a lot more than the procurement area (addressed in Section 508 of the Rehabilitation Act of 1998) and also includes, for example, Section 255 of the Telecoms (Reform) Act of 1996, which places obligations on the telecommunications services and equipment industry, and the Americans with Disabilities Act, which also has accessibility implications. This multiplicity of legislation and regulations is a growing feature of the European situation as well. There is therefore a need, both in individual countries and internationally, for a common set of technical standards. These can then be implemented in different ways using a variety of enforcement mechanisms

Procurers clearly will benefit from being able to define agreed objective accessibility requirements. Harmonisation of accessibility requirements is also important from the perspective of trade/competition policy. Vendors who are or would like to become active in supra-national markets have an economic interest in harmonised accessibility requirements. US industry is well aware of this and EU industry needs to move quickly to avoid being left behind.

Presentations also addressed the process of development of accessibility standards and the practicalities of including suitable accessibility requirements in procurements. The difficulty of applying existing standards in the procurement process was commented on – they are not typically formulated in ways that meet the needs of procurers. However, it was noted that the content of standards does not necessarily have to be restricted to narrow technical specifications and that functional requirements can also be presented as standards. This type of standard might be more useful for procurers.

Industry noted that international standards are important because interoperability is a key requirement nowadays. Product cycles are short and it is important that standards are available in good time, including any relevant accessibility dimensions. Procurers need to define accessibility and other requirements clearly with respect to performance / functionality because accessibility is a moving target. Voluntary standards are preferable for industry because mandatory ones may inhibit innovation.

The need for support for user participation in standards was also raised. Funding is an important issue in this context.

Supporting procurers

A key theme emerging from the presentations was the importance of supporting procurers in their efforts to purchase accessible ICTs. Procurers are not experts in accessibility and cannot be expected to become so. In addition to harmonised standards and requirements, toolkits that make it easy for procurers to include accessibility requirements in their procurements have a central role to play. These need to address the various points of the procurement process and lifecycle, from the initial call for tenders right through to contract award and subsequent performance monitoring and evaluation.

It was noted that a toolkit has been developed in the US - the Section 508 Buy Accessible Wizard (www.buyaccessible.gov) - to help procurers and it was suggested that the European Commission's

handbook on “buying green” could be a good model for a similar one on buying accessible ICT.

eAccessibility can be addressed at various stages of the public procurement process, especially in the technical specifications (minimum requirements) and in the award criteria (if relevant to the procurement and explicitly mentioned). It can also be emphasised in the weighting of criteria. The specification of eAccessibility (or other) requirements in public procurements can be done either through reference to EU or other standards or to defined functionalities. .

Participants who worked in the public procurement area indicated that there are at least three aspects of the procurement process where accessibility requirements may be relevant: specifying accessibility requirements of the ICT products or services to be purchased; assessing suppliers' eAccessibility capabilities; and setting eAccessibility requirements in relation to supportive services such as documentation and training. Harmonisation is therefore needed both for supplier certification and for specification of requirements for hardware and software.

Certification

Certification of the eAccessibility of ICT products and services and of the eAccessibility capabilities of suppliers emerged as important requirements for procurers. Industry representatives favoured voluntary approaches and it was noted that self-certification through "Voluntary Product Accessibility Templates" (VPATS) plays an important role in the US in relation to meeting the Section 508 requirements. However, user organisations felt that third party certification would be more objective and transparent. Consumer organisations also argued for third-party certification, pointing to problems that have been reported from some countries in relation to self-certification, for example in the field of product safety.

Setting requirements for supplier competence in accessibility is becoming of growing relevance as procurements increasingly involve services and as outsourcing and related approaches such as public-private partnerships become more commonplace. In this area, the type of approach to specifying accessibility competence may change as the field matures, from requesting descriptions and statements, to the establishment of desirable or mandatory requirements and, eventually, to a certification regime that could be referenced by procurers.

The way forward

Finally, some specific mechanisms were identified that could be invoked in Europe to progress the utilisation of public procurement towards the achievement of eAccessibility. One approach is the open method of co-ordination, enabling countries to assess their own performance against their peers in relation to agreed benchmark criteria. Specific mandates from the EU institutions to the standards bodies are also an effective approach. eGovernment developments and the successor to eEurope 2005 (i2010) can help push forward the agenda.

Two immediate actions were proposed in the European context. One concerned the development of a European toolkit to help public procurers in Europe to include accessibility in their procurements. The other concerned the establishment of a forum for awareness-raising, exchange and knowledge transfer between Member States and stakeholders in this field.

In addition, it was noted that eAccessibility is not merely a European

issue – it as also a global issue and needs global solutions. At the international level, the EU-US dialogue on ICT standards is central to the achievement of internationally accepted accessibility standards. eAccessibility is currently one of three agreed domains within this dialogue and the progress that has been achieved on this theme now needs to be built upon.

The second major stakeholder consultation was organised in the form of an International workshop held in Brussels on November 7, 2006, addressing the theme of *Achieving eAccessibility: The role of Equality Legislation and Other Measures*. The overall aim was to identify ways to improve the coherence and effectiveness of current approaches to eAccessibility in Europe and beyond, as well as to examine whether there are needs for new approaches.

The event was organised by the eInclusion@EU project, with support from the "Digital Freedoms for Persons with Disabilities in the 21st Century" project (funded by the Research Council of Norway) and the European Commission (DG Information Society and Media). It was attended by 27 invited participants, representing key players in policy and research in the eAccessibility and disability equality fields. Together, the participants provided representation from 12 countries (9 EU member States, the USA, Australia and Israel), from the European Commission, from disability and consumer organisations (EDF and ANEC), from standardisation bodies (ICTSB/DATSCG) and from the European ICT industry (EICTA).

Key messages derived from workshop discussions include:

The Equality approach is important and needs to be reinforced

Equality legislation may introduce positive obligations for actions to implement eAccessibility, (negative) requirements not to discriminate through lack of eAccessibility, or a combination of the two.

The role that the anti-discrimination approach plays and the added value that it can contribute, in conjunction with positive actions, in the achievement of eAccessibility was emphasised in the discussions. Its central contribution is in providing individuals (or groups, through class actions) with the right to seek a remedy if they feel that they are experiencing discrimination. However, it was noted that in the EU (in comparison to the US) there could sometimes be hostility in the Member States towards public interest litigation, with many obstacles in the way of individuals and NGOs wishing to take cases.

The equality (anti-discrimination) approach can also lead to wider structural change if organisations begin to take proactive action ('anticipatory' accommodations) in order to avoid future litigation. It was noted, for example, that trade associations in some countries publish cases and verdicts and that this provides a strong incentive for other companies to act proactively. An illustration of this is the voluntary action on eAccessibility undertaken by the Australian financial industry, which instigated discussions with disability organisations and drafted voluntary industry guidelines on eAccessibility in banking transactions. There have also been some cases on accessibility of banking services taken under the Australian disability equality legislation (DDA). The combination of legislation that gives people with disabilities the right to seek remedy and pro-active initiatives by industry may prove to be an effective approach.

In addition, it was suggested that codes of practice have an important role to play in providing a guide or basis for the courts when making their decisions in discrimination cases involving eAccessibilty or any

other issues, as well as for guiding industry, businesses and employers. In the US, for example, technical guidance has been made available to assist the courts in making determinations about reasonable accommodations. In some EU countries, such as the UK, there are detailed Codes of Practice to help employers and service providers interpret their obligations under equality law and which have also proved helpful in the determination of cases taken on disability discrimination grounds.

Recognised eAccessibility standards are also essential. These need to be referenced in equality legislation and in Codes of Practice, and be available for reference when redress mechanisms are invoked.

Overall, a key message was that the equality provisions of Article 13 of the EU's Amsterdam Treaty need to be brought to bear across a much wider spectrum of policy measures than has been the case to date, including policy areas that relate to eAccessibility. This offers great potential to 'sculpt the market' in a manner that maximises the eAccessibility of the ICT products and services on offer.

The EU Framework Directive on Employment Equality

An important part of the discussion focused on the diversity across the EU Member States in how the Framework Directive on Employment Equality has been implemented and in the visibility of eAccessibility in this context. This uneven implementation across the Member States and the generally limited attention to eAccessibility to date was identified as a matter of real concern. Consideration needs to be given to clarifying the Directive, especially in relation to the reasonable accommodations aspect, whether through revision of the current text, issuing of a clarifying Communication from the Commission or some other appropriate mechanism. Whatever approach is implemented should ensure that eAccessibility is given a clear visibility. In addition, there is a need for technical support to be provided to the Member States and also to the relevant institutions within the Member States (especially the judicial or other processes through which claims of discrimination are pursued) in order to better equip them to deal with reasonable accommodation issues, in general, and eAccessibility issues in particular. Encouragement of the development of strong and effective equality agencies and redress mechanisms in all Member States is also important, and exchange of good practice in this area should be reinforced.

The importance of (good) test cases was also emphasised. Both public agencies (equality bodies in the Member States) and NGOs have important roles to play in helping to bring forward good test cases on reasonable accommodations and on eAccessibility. Such cases are needed to set precedents and also to encourage the emergence of more structural change through 'anticipatory accommodations'. The possibility of greater usage of class actions in the EU Member States, or even on a EU-wide basis, needs to be explored.

An EU Directive on equality of access to Goods and Services

The lack of a EU Directive on equality of access to goods and services was raised as an important obstacle to the achievement of

eAccessibility. It was noted that the Race Directive goes further than the one in the employment field to also include services such as housing, thus indicating that the EU has competency (deriving from Article 13 of the Amsterdam Treaty) for such wider equality provisions.

Inclusion of positive actions in equality legislation

Finally, the benefits of including positive actions in equality legislation as well the (negative) requirement not to discriminate were noted. The Australian equality legislation provides a good example of this, with its inclusion of measures aimed at systemic change as well as anti-discrimination measures. In Europe, the Spanish equality legislation shows how strong proactive measures can be implemented in relation to eAccessibility. The possibility to build in these types of measures in the EU legislation also needs to be explored, including proactive measures to increase eAccessibility by both public and private actors.

Sectoral obligations are also needed

It was agreed that, in addition to equality legislation, clear sectoral obligations are also needed if eAccessibility is to be achieved, to include positive duties on both the public and the private sectors.

Public sector

The pivotal role that public procurement can play in the achievement of eAccessibility was emphasised. The current EU (enabling) approach through the Public Procurement Directives needs to be followed-up and strengthened. The possibility to make the inclusion of eAccessibility in public procurements an obligatory requirement in all member States must be examined. In the meantime, an EU-driven effort to raise awareness and skills amongst procurers is needed, taking into account the specific issues that arise if eAccessibility is to be effectively addressed in the new types of procurement that are emerging. Support materials, such as toolkits and suitable standards to be referenced are also needed. The fact that eAccessibility is now to be included in ICT expenditure under the EU Structural Funds provides an immediate context within which to develop and deploy such resource materials.

The importance of obligations to ensure eAccessibility of public services was emphasised, addressing public web sites and all forms of electronic communications between citizens and government. Examples of legislative and regulatory provisions on these themes were presented from a number of Member States, including strong sanctions for non-compliance in some countries. The EU has an important role to play in the development of an effective forum for exchange of good practice between the Member States. The fact that many public web sites remain inaccessible across the EU despite the issuing of a Ministerial commitment to redress this as far back as 2002 indicates the urgency for action in this field.

eAccessibility in all levels of education was also identified as a priority theme and one that needs a lot more attention at both EU and Member State levels.

Private sector

A lively discussion focused on the responsibilities of the private sector in relation to eAccessibility and on how greater efforts could be

encouraged in this regard.

Both public and private sector employers already fall within the scope of the EU's Framework Directive on Employment Equality. There is a need for actions at both EU and Member State level to encourage employers to adopt a proactive approach through anticipatory accommodations that remove eAccessibility and other barriers to equality of opportunity for people with disabilities in the labour market and in employment.

The implementation of a EU Directive on equality of access to goods and services is needed as one part of the effort to ensure eAccessibility of the market services that play such a key role in everyday life. Both online services and electronic interactions with bricks-and-mortar companies need to be addressed within the scope of such anti-discrimination measures. In addition, direct (positive) sectoral obligations will be needed to ensure eAccessibility.

Such obligations have long been accepted as a natural element of regulation in the telecommunications field. In the US, for example, there is direct legislation that requires eAccessibility to be addressed by telecoms equipment and service providers. In the EU, a number of the Directives in the electronic communications regulatory package include eAccessibility provisions. However, the most recent evidence from a COCOM survey shows that the implementation of these provisions varies widely across the Member States. The EU review of the scope of Universal Service regulation presents a crucial window of opportunity to strengthen the current provisions and to implement mechanisms to ensure that the provisions are effectively implemented across the Member States. Also needed is a more integrated end-to-end perspective that covers both terminal equipment and network services, and the approach needs to be future-proofed to cater for emerging technologies. One important mechanism for this is through the statement of accessibility requirements in functional terms rather than linking them to specific technologies.

The global nature of the wider ICT industry and marketplace was noted, indicating the need for an international level of action to address eAccessibility. Actions by the United Nations, World Trade Organisation and other international entities are therefore important if the necessary global perspective and approach is to be achieved.

The crucial importance of effective avenues for consumer consultation and user involvement was emphasised. The provisions for this under the EU's electronic communications regulatory package need to be reinforced, applied in all Member States and extended to all ICT fields. Disability organisations need supports to enable them to effectively engage, including access to necessary training and financial resources.

Wider issues around the receptivity of industry to the eAccessibility theme were also discussed. It was suggested that the ICT industry may not to want to be seen to give ground (to proposals for legislation or regulation) for fear that this might be a signal for more to follow. On the other hand, it was felt that the inclusion of eAccessibility as a dimension of corporate social responsibility might help to encourage voluntary initiatives by industry. However, a fear was raised that corporate social responsibility approaches might sometimes be used as an avoidance argument against legislation or regulation.

More generally, the absence of a clear presentation of the business case for eAccessibility was felt to be a barrier for industry. Although

there was some evidence to demonstrate that eAccessibility was generally not very costly to implement (for example, an economic assessment of the impacts of the section 508 federal procurement rules on federal ICT costs and on the ICT industry was mentioned) there has not so far been much available on the positive benefits, such as from an enlarged customer base or labour pool. This is an area that could usefully be addressed in the EU through a focused research initiative followed by an extensive dissemination initiative. The possibilities offered by tax incentives for eAccessibility (such as are available in the US) needs to be examined in Europe, as well as the potential to encourage the inclusion of eAccessibility criteria in ethical investment portfolios.

Better regulation (for eAccessibility)

Finally, an important theme to emerge from the discussions was the need for the current efforts on 'better regulation' in Europe to be extended in an appropriate manner to the eAccessibility field.

Developing synergies between eAccessibility measures

A need to put more effort into building synergies between different approaches to achieving eAccessibility was identified. The linkages made in Australia between equality legislation and telecommunications legislation provides a useful example. It was also pointed out the EU's 'Universal Service' Directive is actually a Directive on Universal Service and Users' Rights. This rights-oriented perspective needs to be examined and elaborated in the review of the regulatory framework in this area in Europe and in subsequent actions to improve the eAccessibility of telecommunications in Europe. More generally, there is a need for the complementarity of equality legislation and direct sectoral obligations to be recognised in the Member States and for both approaches to be implemented in a mutually reinforcing manner towards the achievement of eAccessibility. For example, Article 5 of the EU's Directive on employment equality establishes a link between what can be considered to be reasonable accommodations by employers and the levels of public supports available to them. This puts an onus on Member State governments to ensure that well-developed public assistive technology services are in place that can be drawn upon by employers.

Impact assessment

Another important requirement is for more impact assessment to be applied both in eAccessibility policy and also in relation to the potential eAccessibility implications of policies in other fields. However, it was noted that the current scope of 'impact assessment' has generally excluded consumer impacts from within its scope. This needs to change and the efforts towards the development of better regulation in Europe must give a high priority to impact assessments that address social (and equality) dimensions as well as economic, environmental and other such issues. The application of impact assessment at industry level was also noted, with the Australian telecommunications industry given as a positive example of the role that this can play in relation to eAccessibility.

Improving the evidence-base for policy

Finally, it was noted that the evidence base for policy-making in the eAccessibility field needs to be improved. In particular, there is a need to establish a standard set of indicators of eAccessibility as experienced by people with disabilities and for these to be measured regularly by Eurostat and / or national statistical agencies.

3.1.3 Options for European-level action

As a final step for each core theme a roadmap of recommended EU-level policy actions has been proposed. The roadmap to progress the eAccessibility agenda in Europe addresses actions to progress the overall EU policy and regulatory framework in the eAccessibility field as well as specific actions focusing on the core themes that were selected for detailed attention in the work - public procurement and equality / anti-discrimination approaches. The role of direct obligations on the ICT and other sectors is also addressed.

A Comprehensive policy and regulatory framework for eAccessibility

As noted in the Commission's eAccessibility Communication of 2005 and the Riga Ministerial Declaration of 2006, the current EU approach to eAccessibility is under review. The analysis and consultations carried out within the eInclusion@EU project indicate that although eAccessibility now has a high visibility and importance in EU policy, and there are a range of EU-level measures in place, the extent of implementation and impact at Member State level has been variable and generally quite limited to date. Even if the implementation of existing EU measures can be expected to improve, the current complement of EU-level measures is something of a patchwork in terms of the types of measures (anti-discrimination, enabling, sectoral obligations, etc.) that are in place and the scope of their coverage.

In addition, some of the current provisions in relation to eAccessibility are legacies of an earlier era where eAccessibility was very much a secondary consideration in the context of the efforts to develop the Internal Market and competition in the EU. Measures framed in this manner may not be the most effective for the achievement of the necessary set of actions on eAccessibility across the Member States.

There is a need to update the EU approach to better reflect the current policy importance of eAccessibility and to link this with the wider policy commitments to better regulation in Europe. There is also a need to provide operational guidance and support for the Member States to ensure a full, co-ordinated and effective set of eAccessibility measures in all countries.

	Near-term policy and related measures
European Commission (DG Information Society and Media; DG Employment, Social Affairs and Equal Opportunities; DG Enterprise)	**Prepare an annotated map of the current EU measures addressing eAccessibility** The current set of EU-level measures that directly or indirectly address eAccessibility is something of a patchwork and it can be difficult for the Member States to get the overview and understanding needed to underpin a comprehensive implementation at the national level. To remedy this, an annotated map of the current EU-level measures should be prepared by the European Commission. This should provide a comprehensive overview of the existing set of measures and an elaboration on each individual measure tailored to the interests and competencies of the various Ministries and other agencies at national level that have ultimate responsibility for their implementation.

& eInclusion Sub-group	**Develop and disseminate operational guidance and support for the Member States** The mapping exercise outlined above will help make clear what can and should be done at national level. In addition to this, however, the available evidence suggests that there is also a need to provide the Member States with more detailed operational guidance and support in the various thematic areas on an ongoing basis. The European Commission should reinforce its current support to the Member States through mechanisms such as the eInclusion Sub-group established following the Riga Declaration and work towards the development of technical guidance documentation and dynamic and effective exchange of good practice.
European Commission (DG Information Society and Media) ***& Eurostat***	**Benchmark and monitor eAccessibility as experienced by disabled people** Although the real test of eAccessibility policy lies in the extent to which eAccessibility is experienced by disabled and older people themselves, there is no systematic data on this across the EU. The European Commission should conduct a feasibility study to assess how measurement in this area can be carried out. On the basis of this, the current experience of eAccessibility by disabled and older people should be benchmarked and eAccessibility measurement should be incorporated as a regular feature of EU-wide statistical data gathering from now on.
	Preparatory research and consultative activities
European Commission (DG Enterprise; DG Information Society and Media: DG Employment, Social Affairs and Equal Opportunities)	**Assess the strengths/weaknesses, and completeness, of the existing EU eAccessibility measures** The existing set of EU-level eAccessibility measures comprises a range of provisions that include measures addressing relatively new themes (e.g. public web site accessibility) as well as add-ons to legacy policies that primarily address internal market and competition issues (e.g. in telecoms and in public procurement). In the context of the current review of eAccessibility policy being conducted by the European Commission there is a need to examine what is effective across the current range of measures, what is covered and what is missing, and what needs to be added or reinforced. The results of the MeAC study will provide an important input to this.
	Examine the scope for cross-linking and joining-up the separate measures At present there is little, if any, cross-referencing across the existing EU measures that address eAccessibility. Such linkages would add coherence to the current mix of separate measures and help to strengthen their impacts. The European Commission should examine the potential for such cross-linkage across the current EU measures, for example, linking of the EU's competence in the equality area with direct sectoral obligations on eAccessibility and supporting the employment equality directive through assistive technology measures.
European Commission (DG Information Society and Media; DG Employment, Social Affairs and Equal Opportunities; DG Enterprise) in consultation with the ***Member States***	**Assess the merits and possibilities for overarching eAccessibility legislation** There could be considerable merit in implementing overarching eAccessibility legislation in the EU, with a view to providing the cross-cutting and co-ordinated attention to eAccessibility that is needed to address the broad range of sectors and technology fields of importance. This may be the only effective way to develop a harmonised eAccessibility situation across the Member States, ensuring equality of opportunity for all Europeans with disabilities and a level playing field for eAccessibility in the marketplace. A few Member States have already implemented overarching eAccessibility legislation and the EU should now assess the options available to it in this regard and the merits of implementing a measure of this nature that would be adopted by all Member States.
	Measures to follow the preparatory activities
European Institutions (Commission, Parliament, Council)	**Put in place a comprehensive, joined-up eAccessibility approach in the EU** Based on the preparatory activities outlined above, the European Institutions should put in place a comprehensive, joined-up eAccessibility approach in the EU. This could include overarching eAccessibility legislation to ensure the necessary coherence and EU-wide harmonisation that is required in the field. A requirement to 'eAccessibility-proof' all relevant EU policies and other measures could be an effective feature of such provisions, especially if backed-up with operational guidance on how this can be done.

Public Procurement

The inclusion of eAccessibility requirements in public procurements of ICTs offers great promise as a vehicle for achieving eAccessibility in Europe. It can reach not just those who are directly affected by public procurement (whether as employees in the public sector or as users of public services) but can also make a much wider contribution by stimulating the ICT industry to give greater attention to eAccessibility.

This potential has been recognised in EU public procurement policy, and the current European Public Procurement Directives enable (and even encourage) but do not require the Member States to include eAccessibility in their public procurements. In addition, a Mandate has been given to the European Standards Organisations to develop the necessary standards and other supports needed by procurers if they are to effectively include eAccessibility requirements in their procurements.

The available evidence suggests that there has been very little implementation of eAccessibility requirements in public procurement across the Member States to date. Factors linked to this include lack of awareness amongst procurers and lack of supports to help them effectively address eAccessibility in their work. The situation will not be helped by the apparently slow progress in the relevant standardisation processes under the EU Mandate. There is therefore a need for a concerted European effort to rapidly accelerate activity in this field.

	Near-term policy and related measures
European Commission (DG Information Society and Media) ***& eInclusion Sub-Group*** ***& European Public Procurement Network (EPPN)***	**Implement support measures to accelerate progress in the Member States** It is apparent that many Member States have been slow to implement legislative or regulatory measures to require that eAccessibility is addressed in public procurements of ICTs. The European Commission should establish an OMC-type mechanism to explore and implement common approaches across the Member States, working with the eInclusion Sub-group and with the European Public Procurement Network (EPPN). This should address both the new provisions for accessibility in the application of the Structural Funds (Article 16, Council Regulation (EC) No 1083/2006) and the eAccessibility clauses of the revised Public Procurement Directives of 2004. Its scope should include awareness-raising, exchange of good practice, and guidance materials on how to implement appropriate legislation or regulations.
	Assess the eAccessibility competencies of public procurers and their support needs Although the available evidence from the eInclusion@EU project and earlier studies (e.g. the ACCENT project) suggests that public procurers in Europe typically have low levels of competency in relation to how to address eAccessibility in their work, there is a lack of in-depth information on the practical requirements of procurers in this regard. The European Commission should launch a study to benchmark the current situation across Europe and identify the levels and types of support that are needed by procurers. The results should be fed into the work of the European Standards Organisations under Mandate 376.
European Standards Organisations	**Prioritise Mandate 376 and accelerate the production of the key deliverables** There is a pressing need to make available appropriate European eAccessibility Standards to reference in public procurements of ICTs, as well as a toolkit of supports for public procurers to help them to effectively included eAccessibility requirements in their work. The fulfillment of the European Commission's Mandate 376 to the European Standards Organisations is expected to provide the necessary supports in this area. The Standards Organisations should give greater priority to the Mandate and accelerate the work so that the standards and toolkit are published as soon as possible.
European Commission (DG Information Society and Media; DG Enterprise)	**Accelerate the EU-US dialogue in this field** International harmonisation of eAccessibility requirements in public procurement is important for people with disabilities world-wide and for trade. This has been established as a theme in the EU-US dialogue process and some discussions have already taken place, including the international workshop held in Brussels in October 2004. There is a need for this process to be accelerated so that a level playing field is established for the ICT industry and for public procurers.
European ICT Industry Associations	**Help EU ICT industry to develop its eAccessibility competence and competitiveness** A key factor in achieving greater eAccessibility through the public procurement vehicle will be the response by the ICT industry. There will be significant competitive advantages for companies whose products and services meet the eAccessibility requirements imposed in public procurements. At the moment, US companies may have an advantage because of the eAccessibility requirements that apply in the US Federal procurement market. The European ICT industry associations should launch an initiative to support their members to gain the necessary eAccessibility competence and competitiveness.

	Preparatory research and consultative activities
European Commission (DG Information Society and Media; DG Enterprise) in consultation with the ***Member States***	**Examine the possibilities to introduce a mandatory common approach across the EU** The Riga Ministerial Declaration has introduced the possibility that European eAccessibility standards and common approaches in public procurement of ICT products and services might be made mandatory by 2010 for all public administration procurements above the relevant EU financial thresholds. The European Commission should now initiate an analysis and consultation with the Member States on this issue, to include collation and examination of existing provisions in some Member States and in other countries such as the US.
	Measures to follow the preparatory activities
European Institutions (Commission, Parliament, Council)	**Implement appropriate mandatory measures to apply across the EU Member States** Based on the preparatory activities outlined above, the European Institutions should put in place appropriate mandatory measures on eAccessibility in public procurement to apply across the EU Member States.

The Equality Approach

The inclusion of eAccessibility within equality legislation and other equality-related measures also offers great promise as a vehicle for achieving eAccessibility in Europe. Anti-discrimination provisions can give individuals with disabilities the right to seek redress if they are confronted with inaccessible products or services. Introduction of positive duties within the framework of equality legislation can be used to required proactive eAccessibility measures by producers and deployers of ICTs. Provisions within equality legislation can also be invoked or otherwise drawn-upon in other sectoral legislation and regulations.

The equality provisions in the EU's Amsterdam Treaty have so far been invoked mainly in the employment and race fields, with the former having the main relevance for eAccessibility to date. The 'reasonable accommodation' provisions in the Employment Equality Directive include eAccessibility within their scope even if this is not as clearly and explicitly specified as it might be. However, the available evidence suggests that eAccessibility has not yet gained much visibility or attention in the implementation of the Directive by the Member States. Another issue is that the EU Directive focuses mainly on rights of redress and the potential to impose positive equality duties has not so far been given sufficient attention.

A few Member States also have equality legislation covering access to goods and services, with some giving direct attention to eAccessibility in this context. One of the barriers to wider implementation of such legislation across the Member States is the absence of a EU-level Directive on access to goods and services.

	Near-term policy and related measures
European Commission (DG Information Society and Media; DG Employment, Social Affairs and Equal Opportunities)	**Follow-up on the eAccessibility potential of the Employment Equality Directive** The available evidence suggests that the eAccessibility potential of the Employment Equality Directive is not being sufficiently exploited in the Member States. To remedy this, the European Commission should prepare a follow-up initiative to encourage more and better usage of the Directive to help achieve eAccessibility.
European Commission ***& European Network of Equality Bodies (EQUINET)*** ***& EU networks of equality and eAccessibility experts***	**Develop resource materials to support actions on eAccessibility in the equality field** The evidence suggests that key actors such as employers, disability groups, equality agencies and redress institutions may all need support in order to effectively address eAccessibility within the scope of their activities. The European Commission, in conjunction with EQUINET, the European network of equality experts, employer organisations and disability organisations, should launch an initiative to develop and disseminate appropriate resource materials.
European Commission ***& EQUINET*** ***& Disability & Older People's Organisations***	**Launch an Awareness Campaign on eAccessibility and Equal Opportunities** The available evidence also suggests a general lack of awareness of eAccessibility as an important equality and equal opportunities issue, both in relation to employment and to wider access to ICT goods and services. To address this, the European Commission should support an awareness campaign on eAccessibility in the context of the European Year of Equal Opportunities for All, involving equality agencies, disability/older people's organisations and other relevant stakeholders across Europe.
European Commission (DG Information Society and Media; DG Enterprise) in consultation with the ***International Organisations***	**Develop the international dimension of eAccessibility as an equality and rights issue** eAccessibility is a global issue both because of its relevance for disabled and older people around the world and because the ICT marketplace is a global one. The EU should use its influence in the United Nations and other international forums such as the World Trade Organisation and the International Telecommunications Union to help develop the global approach that is needed in the eAccessibility field.
	Preparatory research and consultative activities
European Commission (DG Information Society and Media; DG Enterprise) in consultation with the ***Member States***	**Launch a consultation and analysis on extending the scope of EU equality measures** A strong case has been argued for extending the scope of EU equality measures, for example, through the inclusion of positive duties in addition to rights of redress, introduction of a Directive on equality of access to goods and services (including ICTs), and wider invocation of the equality provisions in Article 13 of the Amsterdam Treaty across all policy areas relevant to eAccessibility. The European Commission should launch a consultation and analysis on this topic with a view to identifying what is possible and desirable for the EU.
	Measures to follow the preparatory activities
European Institutions (Commission, Parliament, Council)	**Implement appropriate measures to extend the scope of EU equality measures** Based on the preparatory activities outlined above, the European Institutions should put in place appropriate measures to extend the scope of EU equality measures and include a strong visibility for eAccessibility within such measures.

Sectoral Obligations

The current range of eAccessibility measures at the EU-level includes within its scope some direct obligations on particular sectors. For example, the Directives in the Electronic Communications Regulatory Package include some direct obligations on Member States to

address eAccessibility in their telecommunications regulatory processes, even if their main provisions as currently formulated have more of an enabling than an obligatory nature. The Ministerial Resolutions on public web site accessibility are also an example of specific EU-wide sectoral commitments. The implementation of the Employment Equality Directive in the Member States imposes obligations on employers not to discriminate and to make reasonable accommodations for people with disabilities when required. In general, however, the current set of EU measures is not strong in terms of imposing direct eAccessibility obligations on either the public or private sectors across the EU, particularly when compared to the situation in other jurisdictions such as the US.

There is therefore a need to assess the scope for widening and strengthening the current EU-level measures to include more in the way of direct eAccessibility obligations on key sectors. The actions proposed in relation to public procurement and to the inclusion of positive duties within equality measures would make a contribution in this direction, but other targeted initiatives are also needed. These should include a clearer and more comprehensive statement of eAccessibility obligations within the Electronic Communications Regulatory Package and in the regulation of the TV broadcasting field. The possibility to impose direct obligations on the wider ICT industry should also be examined, including both the production of ICTs and their deployment in consumer products and services.

Voluntary actions by key sectors, such as the ICT product and services industries, employers, and professional education and training institutions also have an important role to play and should be encouraged and supported.

	Near-term policy and related measures
European Commission (DG Information Society and Media)	**Revamp the eAccessibility measures in the Electronic Communications Regulations** The current eAccessibility provisions in the EU's Electronic Communications Regulatory Package are not very clear or direct, and to a large extent are subordinate to the competition considerations that were to the forefront in the framing of the Directives. This has been a contributory factor in the uneven attention to eAccessibility in telecommunications across the Member States. There is a need to strengthen and update the EU telecommunications legislation to reflect the much higher policy priority that eAccessibility has today. The current review of the Universal Service provisions needs to take this on board and ensure that the legacies of earlier sensitivities to market distortion issues do not hamper the achievement of policy commitments to eAccessibility as outlined in the Riga Declaration and other contexts.
TCAM (Telecommunications Conformity Assessment and Market Surveillance Committee)	**Accelerate the work of TCAM on measures to ensure that eAccessibility in telecommunications is mainstreamed** Historically, many of the eAccessibility solutions in the telecommunications field have been by way of provision of special (assistive) equipment or services for disabled users (e.g. text telephones and text telephone relay services) rather than through mainstream solutions built into the products and services that are used by everyone. The EC's Telecommunications Conformity Assessment and Market Surveillance Committee (TCAM) has been examining the scope for the implementation of more mainstream solutions in this field but progress has been slow to date. There is a need for the policy importance of this work to be reinforced and for an accelerated programme of work to be put in place.
European Commission (DG Information Society and Media; DG Enterprise)	**Commission a study on the business case for eAccessibility** There is evidence that lack of understanding of the economics and business case for eAccessibility has been a barrier to more enthusiastic efforts on the part of producers and deployers of ICT products and services. The European Commission should commission a study in this field with a view to preparing and disseminating awareness-raising materials that will demonstrate the business case for eAccessibility.
European Commission (DG Information Society and Media; DG Enterprise) ***& European Design for All***	**Promote eAccessibility and Design for All in professional education and training** There is also evidence that lack of skills in eAccessibility and Design for All amongst designers and other relevant ICT and eBusiness professionals are barriers to the achievement of eAccessibility in Europe. The European Commission should launch a new initiative in this field, in conjunction with the European Design for All Network (EDeAN) and the relevant stakeholders in the professional education and training sector. As a starting point, a study should be commissioned to ascertain current levels of skills amongst the relevant professionals and the nature and extent of attention to eAccessibility and Design for All in professional education and training curricula. On the basis of

Network (EDeAN) ***& Professional education and training sector***	this, a targeted initiative to improve supply and take-up of necessary skills training should be implemented.
	Preparatory research and consultative activities
European Commission (DG Information Society and Media; DG Enterprise) in consultation with the ***Member States***	**Launch a consultation and analysis on the possibility to introduce direct eAccessibility obligations on the ICT industry and on ICT-based product and service providers** The current set of EU eAccessibility measures does not impose any direct obligations on the ICT industry or on providers of ICT-based products and services. This may in part be linked to jurisdictional/competency issues, but there is nevertheless a need for a thorough examination of what might be possible and desirable in EU. The European Commission should launch a consultation and analysis on the possibilities to introduce direct eAccessibility obligations on key sectors, for example, providers of products and services of significant public interest (e.g. education, health, consumer finance, etc.).
	Measures to follow the preparatory activities
European Institutions (Commission, Parliament, Council)	**Implement measures to impose direct eAccessibility obligations where appropriate** Based on the preparatory activities outlined above, the European Institutions should put in place appropriate measures to impose direct eAccessibility obligations on sectors providing ICT products and services of significant public interest.

Key lines of EU action

The set of measures outlined above incorporate a number of key lines of action for the EU.

Reinforcing and increasing the impacts of existing measures

Currently there are EU-level measures in place that address a number of themes, including accessibility of public web sites, public procurement, employment equality and telecommunications. The evidence indicates that EU-driven actions are needed to reinforce these provisions and increase their impacts at the Member State level.

More urgency in important current initiatives

There are also some current initiatives on the agenda that are not progressing as quickly as might be desired, including the fulfilment of Mandate 376 on public procurement by the Standards Organisations and the TCAM work on mainstreaming accessibility solutions in telecommunications. More urgency needs to be injected into these activities to reflect the high policy importance that is now attached to eAccessibility.

Review and updating of "legacy" policies

Some of the current EU-level eAccessibility measures can be considered to be "legacy" provisions, implemented as add-ons in the context of regulatory measures where the main pre-occupations were with internal market (e.g. public procurement) and competition (e.g. telecommunications) concerns. These are now at variance with the much higher policy importance of eAccessibility in the EU today and stronger measures need to be put in place.

Addressing gaps in coverage of key sectors

There are gaps and inconsistencies in the current coverage of EU-level measures in terms of the sectors that are addressed. For example, the telecommunications sector is addressed (even if the current measures need considerable improvement) whereas there are no EU-wide eAccessibility measures addressing the broadcasting sector. Such inconsistencies and gaps must now be rectified.

Better invocation of the EU's equality competence

The Amsterdam Treaty provides a strong competence for the EU in the equality field. This now needs to be brought to bear in a concerted manner on the eAccessibility theme, including specific equality measures that address eAccessibility and invocation of the equality dimension in other policy areas that impact on eAccessibility.

A more comprehensive and co-ordinated approach

The current set of measures that address eAccessibility are something of a patchwork and this does not help the achievement of a high level of eAccessibility across all relevant sectors and all Member States. A more comprehensive and co-ordinated approach needs to be put in place, through implementation of an appropriate cross-cutting "eAccessibility" instrument at the EU-level.

Impact assessment

It is already clear from the work of the eInclusion@EU project and other studies that the impact of current EU-level eAccessibility measures has been variable across the Member States and, generally, quite limited to date. The MeAC study will provide deeper measures in this area than have been available to date. In addition to this, measures of the actual experience of eAccessibility by disabled and older people themselves need to be developed and applied within impact assessment. There is also a need for attention to be given to cost-benefit issues. However, evidence from studies in the US and the more limited available evidence from the EU suggest that costs of eAccessibility for industry and others are typically very low. A more useful contribution may come from quantification of the benefits that can accrue from eAccessibility for the various parties affected, including industry. An initiative by the EU to elaborate the business case for eAccessibility would now be very helpful.

3.2 eInclusion in relation to employment and work

Technological development and globalisation have lead to dramatic changes in the character of employment and work. Work in successful enterprises no longer follows the old industrial model with hierarchical chains of command, specialisation, fixed divisions of tasks and a large share of unskilled labour. On contrary to this outdated notion, it requires flexible, adaptable and multi-skilled workers. As a general trend, employment has become less stable and certain than in the past and more dependent on the skills and permanent flexibility and adaptability of the workforce.

The workers and workplaces in the future Information Society will be even more different from those with which we are familiar today already. An increasing number of people will work in jobs dealing with information and knowledge and make use of ICT tools and services, both at work and for other purposes at home and at other places.

Workers in the digital age therefore need to be ICT-literate, highly skilled, empowered, mobile and ready for continuous training and lifelong learning. Equally, the Information Society will generate an additional demand for ICT-specialists. In future the satisfaction of this demand will be possible only when population groups which are excluded from access to work and participation in the labour market today will be able to overcome their exclusion and improve their work and labour market participation. Since the future digital work will know less barriers and constraints with regard to gender, age, disability, distance and time, the ICT really have a potential to offer access to work for all.

The role and contribution of ICT as facilitator of access to employment and work can be investigated either in the general labour market, or for specific groups within it - such as older

and disabled people, and other groups with special needs. For the latter 'at-risk' groups, ICT can contribute as follows:

- Assistive technologies can compensate for functional impairments, and help improve the employability of at-risk group members.
- ICT information tools can give an overview of employment opportunities and supportive services for at-risk groups. They can also inform employers, employees and the general public about the resources, skills and potentials of at-risk groups and people with special needs. In this way, they can help combat discrimination and prejudice based on misconceptions of aptitude and ability.
- As a means of in-group communication, they can promote empowerment, self-organisation, articulation of interests and the representation of at-risk groups in the political opinion-forming and decision-making process.
- But modern ICT also have an important contribution to make in the more general employment fields of work quality, work environment and working conditions:
- They can increase the flexibility and adaptability of work and working conditions in view of changing labour market requirements and individual needs and preferences.
- They can improve work-life balance and help equalise occupational chances, creating new opportunities for carers, volunteers and those with other duties.

Current employment, work and labour market related activities in the eInclusion and eAccessibility area

eEurope 2005 carries the ambitious objective of achieving an Information Society for All. It thus contains measures regarding e-Inclusion in all its action lines and aspects, and is closely linked to various EU activities addressing the social aspects and regional aspects of the Information Society.

Employment and work matters are considered as being part of the social dimension of eInclusion: "Employment and social affairs in the context of the Information Society concern the contribution of advanced technologies in the transformation of society and the economy to improve the living and working conditions of citizens. In this regard, the prerequisites for an inclusive Information Society are widespread access to Information and Communication Technologies (ICT) platforms and services, skills to benefit from them, and willingness to do so". In the framework of the Lisbon strategy, many measures are already underway. The employment and work related aspects of eInclusion are strongly reflected in following European Union policies and strategies:

- European Employment Strategy
- EU's Innovation Policy
- EU actions in the framework of the e-Europe Initiative
- European research activities: IST priority under the Sixth Framework Programme (FP6)
- European Enterprise Strategy and initiatives in support of e-business
- eTEN programme: Services for SMEs (eBusiness), Trust and Security
- i2010: A European Information Society for Growth and Employment.

The European Employment Strategy introduced in 1997 is the EU's main co-ordinated policy process. Supported by a set of tools and instruments based on common EU goals and

objectives, it promotes the development of a skilled, trained and adaptable workforce and a labour market that is responsive to economic change. It also aims to co-ordinate EU efforts to create more and better job opportunities. In recent years, a particular emphasis has been placed on developing digital literacy among EU workers as well as e-learning for all citizens.

The main financial lever by which the European Union translates its employment policy into action is The European Social Fund (ESF). Through this fund, the Commission backs Member States programmes to develop people's skills and their potential for work. Since 1994, The European Social Fund has been supporting innovative actions to improve work organisation, vocational training, industrial adaptation, restructuring, demographic change and Information Society in the regions etc.. Most of the pilot projects have a strong ICT focus. Successful projects serve to guide future EU employment and social policies and programmes.

Supporting the adaptability of firms and employees to structural economic change and the use of information technology and other new technologies is one of the EQUAL Community Initiative objectives. In this specific field, more than 100 Development Partnerships test new ideas and explore new ways to tackle discrimination and unequal access to jobs and labour market.

The eEurope Action Plan 2005 (Commission Communication eEurope2005 - An Information society for all) focuses on ensuring the equal participation of all citizens in the mainstream development of modern online public services, like eGovernment, eLearning, eHealth and in creating a dynamic and accessible eBusiness environment. The eInclusion action line specifically addresses this horizontal issue.

Inclusion is also one of the three pillars of the new i2010 initiative for growth and employment. i2010 is Europe’s answer to the fast-moving changes in technologies and global markets brought about by digital convergence. It presents a package of proactive policies to improve the competitiveness of Europe’s information society and media industries, and to harness the potential of digital technologies to drive innovation across the European economy and society. The initiative does not address only the question of helping the old and frail to cope with daily life. Rather it is about enhancing quality of life by enabling older people to take part in a full range of social, economic and cultural activities.

Since 1999, the ESDIS - the High level group of Member States representatives examining the Employment and Social Dimension of the Information Society - has supported the European Employment Strategy. Recommendations, best practices, benchmarking and indicators have been part of its mandate, particularly in the context of the eEurope2002 action plan and its Action line "Working in the knowledge-based economy". In this document the ESDIS High Level Group has developed policy related proposals on how to harness ICT adoption and diffusion in order to support societal cohesiveness. These proposals also have relevance for the field of employment and work, and can be grouped into the following four categories:

- Realising ICT job opportunities for disadvantaged people
- Removing barriers by raising awareness of the IST opportunities
- Removing barriers by making access to ICT available and affordable
- Creating and strengthening awareness of the intrinsic potential for disabled people to perform tasks in regular enterprises

In 2003 and 2004 ESDIS focused on the Local Dimension of the Information Society in an Enlarged European Union. In 2004 and 2005 ESDIS analysed the health impact of the introduction of ICT in the workplace and its potential for an ageing society in the ESDIS working document "Health and ageing in the knowledge society: Employment, social cohesion and e-health potential", which was finalised in April 2006.

Selection of themes for focused attention

The wide range and diversity of possible ICT applications meant that the project had to focus on specific areas and target groups. In selecting themes and issues, areas have been identified where the project could make the most useful contribution. A meaningful selection had to be made, driven by the desire to identify areas where the approach adopted by the project can be expected to generate new insights, to make the best use of the expertise and resources of the project teams and to deliver the best "added-value" for policy makers and policy development.

The outcome of this pragmatic approach was that the spotlight eventually fell on the last two ICT contributions outlined above. This meant the focus was on the general (rather than sheltered) labour market and on mainstream (rather than assistive) technologies. However, we were particularly concerned with two ‘at-risk’ groups within the general labour market - older workers and carers. The three concepts we saw as underpinning the enquiry were active ageing, equal occupational opportunities and work-life balance.

The same rationale and philosophy were applied for the selection of themes and issues for the both WP3 workshops. Europe and European countries are currently facing two widely discussed driving forces of change, namely demographic ageing on one hand and the increasing permeation of ICTs on the other. Although these two trends clearly have several points of intersection, the topic of ICT and their possible contribution to work-related active ageing has been given relatively little focused research attention to date. The same is the case for the possible contribution of ICT to informal care for older people. Up to now, employment related policy/research discourses referring to these concepts of active ageing, equal occupational opportunities and work-life balance have rarely adopted an ICT-related perspective.

Both themes "active ageing in employment and at work" and "informal care for older people" are increasingly relevant policy issues which up to now have been investigated and discussed mostly without explicit links to ICT and it's facilitating impacts. In the eInclusion@EU project we want to show that ICT - even though they are not in the centre of attention and discussion in connection with these two themes - can make a positive contribution, and we should know and reflect more about their respective chances and potentials. Both eInclusion WP3 workshops follow therefore the same philosophy and rationale of linking together themes and debates which up to now have been reflected separately.

3.2.1 Activities pursued in the Member States

Active Ageing in employment and work

The widest possible access to employment for all groups in society is considered fundamental to the achievement of social cohesion. The importance of access to employment derives from its instrumental value in relation to income, to opportunities for the development of skills, to the development of personal identities and many other positively valued goods and resources. This is of course true for people of all age groups. However, Europe is at a stage where ageing of the population is already underway, leading to an older workforce and to the need for increasing employment rates, particularly amongst the women and older population groups. Therefore, the need for new approaches to retain older people

in employment and to focus on age-friendly working environments is of fundamental importance for Europe and European nations.

In line with the lively discussed issue and label of "active ageing" a European-wide debate has shown the positive contribution older people can make to society and economy. Until now, the discussion has been strongly focused on socio-economic and financial issues stressing the needs for increased labour market participation of older adults and their later retirement. The possible pertinent contribution of ICT has been neglected in this scientific, political and public debate.

The trend towards population ageing and developments in the ICT domain intersect in many ways. ICTs play an important role in relation to work-related active ageing, but the possible interactions between ICT and demographic ageing are complex and multidimensional. ICT can, on one hand, create new employment opportunities and healthier working environments, but on the other hand, they can also constitute new threats and barriers. Only if their introduction and use will be shaped by the means of anticipative and formative policy, they will help to reach policy targets and become beneficial for older workers, economy and society.

Evidence related to ICT training and e-skills of older workers: Some relevant state-level measures or programmes were found for this issue in most of the 27 countries. However, there were hardly any instances where the legal obligations and duties of employers were specified. One exception was from Portugal. Here, article 168 of the Labour Code gives workers the right to ongoing training and learning if the employer does not provide it for three consecutive years. The training chosen by workers has to relate to their professional activity, basic ICT competencies, foreign languages or health and security at work. In Hungary, tax deductions are given to older workers who are trainees or learners. Most of the good practice initiatives reported were implemented nationally by the state; much less was being done locally, by firms or on a self-organised basis.

Evidence related to flexible work and individual pathways to retirement: The data collected here suggest that current debates about flexible and individual pathways to retirement seldom ‘include’ ICT: Its positive shaping potential is not yet recognised and reflected in most European countries. Positive exceptions are Finland and Portugal, with several national programmes for older and ageing workers. Most of the reported good-practice projects were employer-based, but without an explicit link to ageing and older workers: On the contrary, many firms were proud of their universal personnel policy for all ages. Our impression is that Danish firms make the strongest efforts to retain and attract senior employees. There is also moderate awareness of the positive potential of work force diversity and age-management in Finland, Norway, the Netherlands and the UK. The concept of work-life balance and reconciliation generally seems to play an important role in English speaking countries.

Evidence related to quality of work and good working conditions: In this issue we received very similar feedback from most of national correspondents. They indicated that, while health and safety aspects are addressed in most national regulations on working conditions, there is usually no explicit reference to ICT and older workers. The exceptions are here Malta, with its National ICT strategy 2004-2006, and Finland, with the National Workplace Development Programme.

Informal care for older people

Informal care stands on the brink of important changes and will be facing great challenges in future. New relevant trends and developments are related to alterations in family patterns and intergenerational relations as well as to the decreasing availability of women due to their increased participation in employment and labour market. Further relevant changes can be expected with regard to individual motivation and readiness for help and other forms of voluntary engagement. Current and expected changes in labour market and policy

environments complete the dynamic picture of future external framework conditions of informal care.

Issues around employment and informal care are gaining in importance and there is an increasing pressure on people of different age groups to combine employment with caring duties. There is manifold evidence that informal carers will have to carry large burdens when it comes to coping with increased quantitative demand for personal care and support in future. On the societal level, various demographic and economic forecasts and projections show that all European countries will have to tap and exploit the resource of informal care in a much stronger and more systematic way if they want to escape the "demography trap" and enable good life quality for a growing number of older citizens. Much more people will have to work and look after older people at the same time as it is the case today. This vision and scenario seems to be feasible only if carers are granted equal occupational opportunities and can pursue their professional careers without discrimination and disadvantages in comparison to other workers without caring duties.

For these reasons the issues of work-life balance and equal occupational chances of informal carers for older people will need to receive more attention in future. Currently many carers for older people are restricted in their occupational choices and possibilities. They are faced with difficulties to reconcile the competing demands of work and caring duties and are not always met with understanding and support on the part of their employers.

Caring activities can impact on people's participation in working life and their ability to pursue professional career. Women are particularly at risk of suffering from inequalities in employment, directly linked with their caring responsibilities. Other frequent problems of carers for older people are excessive strain, burn-outs and necessity of timeouts and recovery, isolation, loneliness and the feelings of self-sacrifice and low acknowledgment of caring work. All in all, there is a very real risk that informal carers will increasingly become socially and economically marginalised due to their caring duties, and this stands in strong contrast to the policy goal of a socially cohesive society.

Evidence related to e-working: The data here indicate that e-working (tele-working) has so far rarely been considered as a tool for improving the work-life balance and occupational opportunities of carers. In Europe, there are almost no policy programs and measures that aim to promote e-working in this way. Only some larger companies and public administrations deliberately employ ICT for this purpose, with Cyprus, UK and Portugal providing some concrete examples. There is a marked contrast between the demographic profile of informal tele-workers who have some choice in where they work (mainly qualified men, having some autonomy in their organisation, working in high-tech companies and with long working hours) and that of carers, who are usually women. In the few cases where ICT and e-working are seen in terms of promoting work-life balance for carers, it is in the context of carers of young children rather than those who care for older persons.

Evidence related to e-learning and e-training: There are several different meanings of the terms "e-learning" and "e-training". They can refer to formal e- or distance learning, but may include also the informal use of ICT at home for studying and learning. We found some variation in the extent of individual and firm-based or encouraged e-learning and e-training; the latter being popular and more frequent in larger firms and organisations, e.g. in Denmark and Belgium. Formal e- and distance learning seem to be especially popular in post-communist new EU-member states (e.g. in Estonia and Czech Republic). This probably connects with wider reforms in the education system of these countries. Participation in formal ICT-supported distance learning in Southern European countries is relatively low. However, differences in the frequency of informal e-learning seem to be less marked.

Evidence related to e-access of carers to supportive resources, services and institutions: Social and welfare services that could count as supportive resources come from various levels of public authority (national, regional, communal) and the non-profit sector. They tend

to be very scattered. This is why information on resources was collated by "centralisers of services". These were public or non-profit platforms or organisations that co-ordinated information and facilitated access to resources. While they sometimes mediated between supply and demand, many of those working in this field saw themselves as pure information providers. Nowadays these "centralisers" of welfare services have portals or web sites. One observation to make from the data is that awareness of the need to support informal carers in their work-life balance was greatest in the UK. This was evident from the formal and institutional nature of support, with organisations such as Carers UK, Employers for Carers, Crossroad Association etc.

Evidence related to the quality control of medical and care relevant websites: Different institutions have developed criteria to guide and evaluate healthcare web pages. The criteria most often used in different initiatives are usually related to content, design and site aesthetics, listing authors, sponsors, updating information. The most consolidated project in the European area is called QUATRO http://www.icra.org/projects/quatro/ and develops the vision of a semantic web that allows for the existence of trustworthy medical and clinical contents that the user can access. The need for a quality certification system, controlled by experts, in a completely transparent fashion is very evident. The semantic web concept may be the key in achieving this.

3.2.2 Stakeholder workshops

The first workshop for topic II entitled "*The contribution of ICTs to Active Ageing in Work and Employment*" was attended by more than 80 persons. It was carried out on 17 October 2005 in Brussels back-to-back with the Final Conference of the 5th FWP research project ActivAge (www.iccr-international.org/activage/)[10].

Key messages derived from workshop discussions include:

Better interlink active ageing and eInclusion policies	Discussions at the Brussels workshop reflected that the current debate on work-related active ageing and the possible contributions of ICT is mainly characterised through complexity and diversity. To better interlink active ageing and eInclusion policies, policymakers and employers will need to look at issues such as investing in e-skills of older workers, designing ICT to cater for age-related changes in perception, dexterity, cognition and organisation of ICT-related work to suit the needs of older workers. They must also consider establishing a robust and harmonised European evidence base on the contribution of ICT to active ageing in employment and at work.
relation between eInclusion and active ageing in employment and at work is a new and emerging field of interest	Currently Europe is in the initial phase of linking together themes and debates which up to now have been developed and discussed separately. The relation between eInclusion and active ageing in employment and at work is a new and emerging field of interest. The Brussels workshop was a first step in exploring the relationship between eInclusion and active ageing strategies and brought together relevant stakeholders to facilitate a coordinated research and policy strategies at the European and national level. Key aspects to be addressed by policy makers and employers at national and European level in order to maximise the opportunities and minimise the potential risks are: • design of ICT to cater for age-related changes in perception, dexterity and cognition,

[10] ActivAge was a three years 5th FWP research project investigating challenges posed by ageing societies for different policy sectors such as labour markets, pension systems and health care systems, as well as the impact of the active ageing paradigm on civil society.

- organisation of ICT-related work to suit the needs of older workers,
- equality of opportunities in access to age-friendly ICT work,
- exploitation of assistive technologies to support workability of older workers,
- exploitation of ICT-supported opportunities for age- friendly flexibility in work,
- equality of opportunities to acquire and maintain ICT-related skills and competencies,
- need to establish a robust and harmonised European evidence base on the contribution of ICT to active ageing in employment and at work,
- need to motivate older people to remain longer in the working process on the one hand and need to motivate enterprises to employ older people on the other hand, and, finally
- a proactive approach that focuses on the entire working life and therefore on all age groups in the workforce.

ICT can clearly contribute to active ageing in employment and at work

The workshop revealed further a wide understanding that ICT can clearly contribute to active ageing in employment and at work. Although technology on its own may not be a "killer application" with regard to the achievement of high employment rates and to the later retirement of older workers, people are increasingly aware of the respective ICT potentials. However, many active ageing experts and promoters are still rather sceptical about the possible contribution of ICT, because they fear the risk of creating new barriers for older people. Another reason for existing obstacles and slow progress in learning from successful pilot projects and good practice examples is the institutional fragmentation of responsibilities and the lack of cooperation between people and institutions in charge of social policy, active ageing and ICT promotion policies.

Pioneer and lagging countries in technology supported active ageing

Most advanced countries and technology-exploiting pioneers in relation to active ageing are located in Northern Europe, especially in Finland. Within Northern Europe active ageing is a recognised concept and Finland has developed the most explicit and comprehensive framework for beneficial societal use and exploitation of new technologies. Conscious and explicit use of age-diversity and age-management seems to be most frequent in Denmark and Danish firms. One reason for the Scandinavian lead could be the agreements and good cooperation between policy makers, employers and trade unions. On the other hand, good quality and well implemented research plays also an important role.

On the contrary, the post-communist new member states of European Union are lagging behind. These countries still have a much lower life expectancy and higher unemployment rates. In addition, some of them are not currently facing the demographic changes to the same severe extent as the old member states. Because of this the active age and active ageing debate is not yet on top of the political agenda of these countries.

Discussion on how ICT can contribute to work-related active ageing is still in an early stage	The overall conclusion reveals that the discussion on how ICT can contribute to work-related active ageing is still in an early stage. Although work-related active ageing is of increasing priority in the EU policy agenda, the attention varies significantly across Europe and sometimes conflict with contrary policy goals like, for instance, reducing unemployment amongst young people. In most of the member states active ageing is gaining in momentum since the majority of countries have to face the challenges of a demographic change. However, discussions under the heading of active ageing and the possible contributions of ICT are not common and until now the topic has been given relatively little focused research attention.

The second topic II workshop entitled "*The contribution of ICTs to Equal Opportunities and Work-Life-Balance of Informal Carers for Older People*" was carried out on 30 November in Brussels and attended by more than 40 persons.

Key messages derived from workshop discussions include:

Many technological solutions and applications are already available	Many technological solutions and applications are already available and can help in informal care for older people. Successful good practice examples and pilot projects have shown beneficial effects of ICT use in informal care and other associated domains and life-spheres; yet the progress and learning from these successful projects and examples is slow. When it comes to ICT enabled care solutions that have been piloted during recent years, there is a lack of implementation beyond the immediate pilot stage.
Main obstacles of more frequent ICT use in informal care for older people	The following main obstacles of more frequent ICT use in informal care for older people were identified and addressed at the workshop: (I) Lacking ICT-skills, experience and competence of current informal carers, (II) Lacking general information and selective awareness and knowledge about possible ICT and technology contribution in informal care, (III) Lacking awareness about and readiness to use existing support services, (IV) Lacking assistance and maintenance problems, (V) Conservatism and sceptical attitudes of many actors and decision makers towards technological solutions, (VI) Ethical doubts and psychological barriers, feeling of guilt and low acceptance of new technologies, (VII) Fragmentation and bureaucracy in provision systems and (VIII) Financing, affordability and lacking economic means.
Changing models of informal care	In future European societies the currently prevalent traditional model of informal care for older people, in which the carer does not work or works part-time only will be substituted and completed by a whole variety of new alternative informal care models combining work, leisure and various forms of civic engagements. One of the more frequent models will be the combination of full or almost full employment with informal care. Another model or constellation of growing number and importance in ageing societies will be related to cases, where older people are not only care recipients but carers as well. Because of the need to cater for a growing number of care recipients but also thanks to better ICT skills of future carers and to more mature and user-friendlier technological solutions, ICT will play a more prominent role in both of these more frequent models and constellations of future informal care.
ICT as an important	Our main conclusion is that ICT are not currently seen as an important instrument which can improve work-life balance and occupational

instrument	chances of informal carers for older people.
Origin and spread of the concepts "equal occupational opportunities" and "work-life balance"	The concepts of equal occupational opportunities and work-life balance are of Anglo-Saxon origin and it is therefore not a surprise, that they play the strongest role in the UK. Other countries just started to consider the possibility and exploit systematically the resources of informal care and informal carers. Work-life balance and equal occupational chances of informal carers for older people are not a really important issue anywhere in Europe yet. This should be changed and the eInclusion@EU project made an attempt to start an informed dialogue about this necessity.

For more information on both workshops see D3.3.

3.2.3 Options for European-level action

For each of the two themes and in line with the organisation of the work and analysis in the project, we present three goal-oriented roadmaps for three interrelated fields of activity. First three roadmaps are related to the active ageing theme and address the following goals and fields:

1a) Increased labour market participation of older workers and persons,

1b) Age-friendly workplaces and working conditions for older workers and

1c) Flexible individual pathways from employment to retirement

Second three roadmaps are related to the informal care theme and address the following goals and fields:

2a) Improved work-life balance and better occupational opportunities of informal carers

2b) Improved use and quality of care relevant information and resources

2c) Better co-operation and communication in informal care for older people

Increased labour market participation of older workers and persons

The labour market participation of older persons and workers can be improved by many different means like legal measures against age discrimination, elimination of financial and fiscal disincentives with regard to employment at higher age and various measures against early retirements. Only few possible measures aiming at higher labour market participation of older workers and persons bear reference to ICT. The main leverage points and interrelations between ICT and labour market participation of older workers and persons refer to their ICT skills and to the possibility of ICT-related support of their workability and employability.

The most influential actors and stakeholders who can deliver key contributions in this respect are the European Commission and the European organisations of employers and trade unions. Some measures address also the ICT industry and service providers and the European organisations of older people.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of actors and stakeholders. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions. In medium and long term we suggest also the introduction of financial incentives and legal obligations of employers to invest in ICT skills and human capital of older workers.

	Near-term policy and related measures
European Commission	**Implement an awareness and knowledge raising campaign about the potentials of ICT in relation to active ageing in employment and at work. This campaign should be addressed to the following target group(s): Policy makers, employers and trade unions and general public.** As commented in previous chapters of this deliverable and in the D32 and D33 deliverable, the awareness and knowledge about the mutual relations and possible contribution of ICT and active ageing is very weak and should be improved as soon as possible.

	Implement an awareness raising campaign against prejudice related to the productive efficiency and learning capacities of older workers and persons. This campaign should be addressed to the following target group(s): Policy makers, employers and trade unions and general public. Many employers and employees of other generations bear unfounded and biased opinions about the productive and learning capacities of older workers and people. In such biased opinions, ICT skills and capacity to improve them very often play an important role. **Help the EU-post communist member states to improve the ICT skills of older workers and to increase the weight of the active ageing concept and issues in their political agendas.** Existing data show the large extent of intergenerational disparities in ICT skills of older work-ers in new post communist EU member states. The reasons of a low importance and significance of the active ageing concept in these countries were investigated and commented in the 6. FWP ActivAge research project http://www.iccr-international.org/activage/en/index.html
	Help all EU-member states to overcome the lacking interest and readiness of firms and economy to invest in ICT- and other skills and human capital of older workers. Contribute to the elimination of pertinent differences and to the growing equality of access to ICT-related vocational education and training for older workers and employees. The lacking interest of firms and economy to invest in skills and qualifications of older work-ers is one of the main obstacles of ICT learning at higher age. Purely economically thought, the firms do not invest time and money into workers whose employment perspective is too short for paybacks. Because of this there must be special efforts, incentives and also state support for pertinent training and educational activities.
ICT industry and service providers	**Develop and design products and services with an explicit aim to cater for age-related changes in perception, dexterity, cognition, etc. of older workers and people. Think of older workers and older people as future and growing segment of clients and customers.** In the past ICT industry and service providers developed products for clients and customers of younger generations. Of course the responsible firm managers and marketing specialists also realise that Europe is ageing, but this fact and anticipation have not been up to now incorporated and reflected sufficiently in the development and planning of new products and services.
Employers and trade union organisations	**Help to raise the awareness and knowledge of the firms and economy with regard to the necessity and beneficial effects of investments into ICT skills and competence of older workers.** The employers and trade unions associations have both special responsibility and can deliver a specific contribution in relation to the lacking readiness of firms and economy to invest into skills and human capital of older workers.
	Help the firms and economy to implement the principles of CSR and age- and diversity management concepts. CSR and the concepts of age and diversity management emphasise the positive potentials of older workers and the economic instrumentality of ethnic and intergenerational diversity in an individual enterprise. The higher esteem and valuation of older workers will help to in-crease the readiness of firms to make further investments in their skills and capacities.
Organisations of older people	**Increase the weight and priority of ICT and ICT-issues in the organisational agendas.** Up to now ICT and ICT-issues have not received sufficient attention in the organisations of older people.
	Help to inform the older workers and employees about their own interest and responsibility to acquire and improve their ICT skills and competences during the last phase of their professional career. The pertinent motivation of older workers and employees to acquire ICT skills at higher age could be improved by the hint that they will be able to use them and benefit from them in their later retirement phase.

	Preparatory research and consultative actions
European Commission	**Establish a robust and harmonised European data base on ICT use and skills of older workers.** Pertinent data of good quality is not available and could make a significant facilitating and improving contribution in the political opinion forming and decision making process.
	Establish a robust and harmonised European data base on the participation of older workers in ICT-related vocational training and further education. The data quality and availability is better in this relation but still not sufficient for the purposes of political opinion forming and decision making process.
	Suggest and develop meaningful indicators on ICT contribution to active ageing in employment and at work. Unlike the two above mentioned recommendations, where the issues are clear as such and the problem is just missing data, in this relation some conceptual work must be done first before it comes to data gathering.
	Elaborate a specific and detailed concept how to use ICT to maintain and support workability and employability of older workers and persons. This is also one of the key points and recommendations for the first roadmap. The research-ers who will be mandated could start their work by analysing and learning from the experience and good practice in Finland and other Northern European countries. **Analyse the reasons for slow learning progress and suggest new and more efficient ways how to learn from successful pilot and demonstration projects; improve the implementation and exploitation of scientific knowledge and results of research projects.** The diagnosis and statement about the slow learning progress and the need to improve the efficiency in learning from successful pilot and demonstration projects has been made in both workshops of the work package, but neither the workshop participants nor the author of this report are able to propose a remedy in this relation.
	Develop a new particular focus on older workers within the general research on ICT and new ways of ICT-supported working. This recommendation can be justified by the ageing of European societies and by specific characteristics, potentials and deficits of older workers.
	Tender and carry out research projects dealing with the question how different ICT sector applications (e.g. eWork, eCare, eHealth and eGovernment) could be implemented and harnessed with an aim of improving the employability and workability of older workers and employees. This perspective is normally lacking in the above mentioned sector considerations and will lead to important new insights.
	Tender and implement research projects dealing with the development and application of specific ICT-supported models for age-friendly training and education. Again this recommendation can be justified and founded by the ageing of European societies and by specific characteristics, potentials and deficits of older workers.
	Long term policy and other measures
European Commission	**Help all EU-member states to introduce legal obligations for employers to provide ICT related vocational education and training for older workers.** Even if all above mentioned recommendations could be implemented with positive results, we do not expect sufficient changes in readiness of firms and economy to invest in skills and human capital of older employees as a result of voluntary measures. As a long term policy objective and vis-à-vis of the ageing of European populations and labour markets we see a necessity to introduce a pertinent legal obligation.
	Help all EU-member states to develop and implement harmonised system of tax deductions and financial incentives for vocational training and further education of older workers and employees. The older workers, employees and persons must also be made personally responsible for life long learning and tax deductions and other forms of financial incentives could be appropriate instrument here.

	Help all EU-member states to overcome the institutional fragmentation of responsibilities and to improve the co-operation between actors and institutions in charge of social, active ageing and ICT promotion policies. Again, the diagnosis and statement about the institutional fragmentation of responsibilities and the need to improve the co-operation has been made in both workshops of the work package, but again neither the workshop participants nor the author of this report are able to propose a remedy in this relation.
	Help all EU-member states to weaken the present rigid separation and to increase the permeability between employment and retirement. This general important objective could be pursued e.g. via elimination of financial disincentives and legal obstacles, but more reference to ICT would have the development of new models of part-time work, flexible work and semiretirement in the transition phase between employment and retirement. **Help all EU-member states to increase spatial and professional mobility of older workers and people in Europe.** The increases in spatial and professional mobility throughout Europe are distributed un-evenly in intergenerational respect and older workers - in partial difference to older people - are lagging behind the younger generations. Modern communication and information technologies could play an important role in overcoming these differences and disparities.

Age-friendly workplaces and working conditions for older workers

In this second field and roadmap ICT play a more important role than in the first one since more possible measures with significance for workplace quality and working conditions of older workers bear relation to modern information and communication technologies. With ICT help it is possible to adapt workplaces in accord with the changing abilities and capacities of older workers, but also to shape the working conditions in directions of better correspondence with the needs and preferences of older workers.

The most influential actors and stakeholders who can deliver key contributions in this respect are the European Commission and the European organisations of employers and trade unions. Some measures again address the ICT industry and service providers and also the European organisations of older people.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of actors and stakeholders. Exceptions are the above mentioned European directives for equal treatment in employment and occupation stipulating an employer duty to provide reasonable accommodation for workers and employees with handicaps and functional restrictions. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions. In medium and long term we suggest to strengthen financial incentives and legal obligations of employers to provide age-friendly and human workplaces and working conditions, not only for older workers but for all employees.

	Near-term policy and related measures
European Commission	**Implement an awareness and knowledge raising campaign about the special occupational needs and workplace requirements of older workers. This campaign should be addressed to the employers and trade unions and to the general public.** Many employers and trade union representatives as well as the publics in general are not informed sufficiently about special occupational needs and workplace requirements of older workers.
	Provide a contribution to an age-friendly and human work organisation and workplace adaptations. One concrete and important measure in this relation could consist of monitoring and control-ling the national implementation of European directives forbidding direct and direct age discrimination and stipulating the employer's duty of reasonable accommodation.

	Provide a contribution to an age-friendly and human design of various working tools and instruments by the means of providing market information and improving the market transparency to stimulate industry's attention and activity in this field.
	Introduce and implement stricter occupational health and safety regulations. Strengthen efforts of occupational health prevention and help to eliminate excessive stress and work loads for older workers. According to many surveys and studies, health problems and excessive work loads are one of the main causes of early retirements and have hence a negative impact on the labour market participation of older persons and workers.
	Help the firms and economy to implement the principles of CSR and age- and diversity management concepts. As already mentioned in the previous roadmap 1a, CSR and the concepts of age and diversity management emphasise the positive potentials of older workers and the economic instrumentality of ethnic and intergenerational diversity in an individual enterprise. The higher esteem and valuation of older workers could help to increase the readiness of firms to make further investments in adaptation of working conditions and workplaces of older workers.
	Promote the incorporation of older workers needs and resources into public procurement strategies. The state as purchaser of goods and services has a special duty and responsibility to incorporate the specific needs and potentials of older workers into public procurement strategies and decisions. This exemplar duty and responsibility should be taken into account both in connection with decisions to purchase assistive technologies for persons with special needs as well as with "normal" main stream technologies for workers of all generations.
ICT industry and service providers	**Develop and design products and services with an explicit aim to cater for age-related changes in perception, dexterity, cognition, etc. of older workers and people. Think of older workers and older people as future and growing segment of clients and customers. (The same recommendation and justification is also an element of the 1a road-map).** In the past ICT industry and service providers developed products for clients and customers of younger generations. Of course the responsible firm managers and marketing specialists also realise that Europe is ageing, but this fact and anticipation have not been up to now incorporated and reflected sufficiently in the development and planning of new products and services.
Employers and trade union organisations	**Help the firms and economy to adapt the workplaces and to improve the organisation of ICT-related work to suit the needs, resources and capabilities of older workers.** A pertinent initiative and stimulating efforts of European employers and trade union associations is necessary, because many firms and employers - above all in SME size range - don't do enough for their older employees. **Help the firms and economy to exploit the ICT- and assistive technologies potentials to support the workability and employability of older workers.** Many successful programmes and pilot and demonstration projects have already shown concrete ways and examples how to support the workability and employability of older work-ers by the means of modern ICT. The effects and effectiveness of pertinent programmes and projects could be improved if employers and trade union organisations play an active role in the dissemination processes.
	Preparatory research and consultative actions
European Commission	**Develop and implement new concepts and models of adapting and adjusting the workplaces and working conditions in accord with needs and resources of older workers and persons. Demonstrate also the possible pertinent contribution of ICT. Tender and implement research projects dealing with the segmentation and heterogeneity of ICT-related needs and resources of older workers.** In spite of the existing knowledge and know-how in this field, a further research is needed, e.g. focussing on the growing heterogeneity of the older workers and persons and the respective differences between current and future older workers.

	Analyse the reasons for slow learning progress and suggest new and more efficient ways how to learn from successful pilot and demonstration projects; improve the implementation and exploitation of scientific knowledge and results of research projects. The diagnosis and statement about the slow learning progress and the need to improve the efficiency in learning from successful pilot and demonstration projects has been made in both workshops of the work package, but neither the workshop participants nor the author of this report are able to propose a remedy in this relation. (The same recommendation and justification has been made already in connection with the 1a roadmap)
	Tender and implement research projects on smart and adapted working environments that take into account the needs and resources of older workers in a wider sense, while at the same time maintaining or even enhancing their productivity. RTD- and research projects with a broader perspective looking at the productive skills capacities of older workers as embedded in their living conditions and quality promise better outcomes and results.

Flexible individual pathways from employment to retirement

As documented in previous sections and work package deliverables the contribution of ICT to flexible and individual pathways from employment to retirement has to do with their possible role as facilitator of (I) spatial and temporal flexibility and autonomy of work, (II) access to flexible and individual work-life arrangements, (III) part-time employment at higher age and (IV) the general permeability between the employment and retirement sector.

The most influential actors and stakeholders who can deliver key contributions in this respect are again the European Commission and the European organisations of employers and trade unions. Some measures address again the ICT industry and service providers and also the European organisations of older people.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of ac-ors and stakeholders. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions. In medium and long term we suggest also to implement measures aiming at an increase of the individual responsibility of persons and employees for the conscious planning of retirement and transition between work and retirement.

	Near-term policy and related measures
European Commission	**Help to improve the knowledge and awareness of older workers about the variety of pathways from employment to retirement and about their possibilities to make choices in accord with their preferences, needs and resources. Demonstrate also the possible pertinent contribution of ICT.** Many older workers and people in many European countries and EU member states still see the retirement and the pathways to it as something given and in the mere responsibility of the state. In many cases they do not realise that have choice options and shaping possibilities - last but not least with the help of modern ICT - in this relation. A pertinent campaign addressed to the older European who will be the next generation to be confronted with thee options and responsibilities will help to improve the situation. **Help the member states to weaken the current rigid separation and to increase the permeability between retirement and employment (work) at higher age. Demonstrate also the possible pertinent contribution of ICT.** This recommendation goes in the same direction as the previous one, but the addressees and target groups are not the older workers and people themselves, but the state and the firms and enterprises. ICT can again play an important role and provide a significant contribution in pertinent plans and efforts.

ICT industry and service providers	**Develop and design products and services with an explicit aim to cater for age-related changes in perception, dexterity, cognition, etc. of older workers and people. Think of older workers and older people as future and growing segment of clients and customers. (The same recommendation and justification is also an element of the 1a road-map).** In the past ICT industry and service providers developed products for clients and customers of younger generations. Of course the responsible firm managers and marketing specialists also realise that Europe is ageing, but this fact and anticipation have not been up to now incorporated and reflected sufficiently in the development and planning of new products and services.
	Develop and design products and services with an explicit aim to facilitate the planning of retirement and the pertinent transition phase from employment. Even if we do not have concrete ideas how such products and services should look like - the growing number of potential customers and clients who will be in this transitory situation in future should stimulate efforts to develop special products and services ("work-life-balancer" would be a good name and it is not protected yet!!) for this clientele.
Employers and trade union organisations	**Help the firms and economy to contribute to the faster adoption and wider diffusion of age-friendly work time and work place arrangements. Demonstrate also the possible pertinent contribution of ICT.** **Help the firms and economy to improve the equality of opportunities in access to flexible work-life age-friendly ICT work throughout Europe. Demonstrate also the possible pertinent contribution of ICT.** **Help the firms and economy to implement the principles of CSR and age- and diversity management. Demonstrate also the possible pertinent contribution of ICT.** **Help the firms and economy to improve the access to part-time work, job sharing, flexible work-life arrangement for older workers. Demonstrate also the possible pertinent contribution of ICT.** All these recommendations were also addressed to the European Commission (see above, also in the 1a and 1b roadmaps) and employer's and trade union organisation should co-operate and be an active partner in the implementation of pertinent efforts and measures.
Older people organisations	**Help older people and workers to increase their individual awareness and responsibility for the planning of retirement and for the transition pathways between retirement and work. Demonstrate also the possible pertinent contribution of ICT.** The justification of this recommendation is delivered above in connection with the first suggestion addressed to the European Union. Older people organisations have a special responsibility and can make a specific contribution in necessary co-operative efforts.
	Preparatory research and consultative actions
European Commission	**Establish a robust and harmonised European data base on transition and pathways from employment to retirement and pertinent individual preferences.** Pertinent data of good quality is not available and could make a significant facilitating and improving contribution in the political opinion forming and decision making process.
	Tender and implement research projects showing how older people could be supported during the transition period by the means of ICT. This may for instance concern online training for retirement and flexible workplace and work-time models supporting part-time work, job sharing and gradual transition from employment to retirement.

Better work-life balance and occupational opportunities of informal carers for older people

The work-life balance and occupational opportunities of informal carers for older people can be improved by many different means (see for example the Chapter 2.3 of the D3.3 deliverable) and only few of the pertinent possible measures bear reference to ICT. The main leverage points and interrelations between ICT and occupational chances of informal carers for older people refer to the spatial flexibility and autonomy of working informal carers and of ICT support they can get in order to reconcile their working and caring duties.

The most influential actors and stakeholders who can deliver key contributions in this respect are the European Commission and the European organisations of employers and trade unions. Some measures address also the European carer and patient organisations.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of actors and stakeholders. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions. In medium and long term we suggest also the introduction of financial incentives and legal obligations of employers to invest in ICT skills and human capital of older workers and persons.

	Near-term policy and related measures
European Commission	**Promote and support the incorporation of ICT applications and solutions delivery of care for older people throughout Europe. Encourage the development, take-up and diffusion of IST-based solutions in care for older people.** We believe that an accelerated implementation and diffusion of ICT supported applications and solutions in informal care for older people leads also to an easier reconciliation of occupational and caring duties and is hereby also a contribution to work-life balance and occupational chances of informal carers for older people.
	Implement an awareness and knowledge raising campaign about the work-life balance concept and pertinent possible ICT contribution in all European countries. This campaign should be addressed to the following target group(s): The policy makers, employers and trade unions, general publics. The work-life concept has been developed in Anglo-Saxon countries and is now known in the North and West of Europe as well. The awareness of and knowledge about this concept is much lower In other parts of Europe - and above all in the new Middle and Southern European EU members states.
	Implement an awareness and knowledge raising campaign about the importance and merits of informal carers for older people in all European countries. Help to improve their image and degree of popularity. This campaign should be addressed to the following target group(s): The policy makers, employers and trade unions, general publics. On contrary to previous recommendation the awareness about the necessity, importance and merits of informal carers is low throughout Europe and the feeling of self-sacrifice and lacking acknowledgment is one of the most important reasons for de-motivating frustrations of informal carers.
	Implement an awareness and knowledge raising campaign about the problems, requirements and needs of working informal carers. This campaign should be addressed to the following target group(s): The policy makers, employers and trade unions, general publics. The above statement about lacking knowledge and awareness of importance, merits, and problems of informal carers in general is even more valid with regard to working informal carers, which up to now are a small segment within the whole informal carer population. Be-cause of reasons specified in Section 3.2 of this report, we expect that this segment and it's importance will grow strongly in future years.
	Help to establish and strengthen the contacts between carer's organisations, ICT industry and service providers with an aim to cater better for carer's specific demand and needs. Especially the specific problems and needs of working informal carers for older people are up to now not known and well catered for by the ICT industry and service providers.
	Help to bring the support services better in accord with the needs and resources of working informal carers for older people. Use for this purpose ICT and other technologies as a means of improving access and use of support services. A particular problem mentioned in several pertinent research projects are the opening hours of support services. ICT can help to substitute personal consultancy and meetings by electronic advice and communication.

ICT industry and service providers	**Develop and design products and services with an explicit aim to support working informal carers. Think of informal working carers as future and growing segment of clients and customers.** Since the number of working informal carers will grow, ICT producers and service providers should start thinking about them as future clients and customers.
Employers and trade unions	**Help the firms and economy to introduce and offer flexible and mobile work as well as distance learning and training possibilities for caring employees.** Since the number of working informal carers was not too high in the past with exception of several European countries like the UK, majority of firms and enterprises still do not have sufficient knowledge about their problems and needs and about efficient ways of supporting them in reconciliation of their working and caring duties. ICT supported mobile work as well as distance learning and training courses are such efficient support measures.
	Help to inform the employers and trade-unions and publics about the importance and merits of working informal carers for older people. Demonstrate the pertinent possible contribution of ICT. Employers in many firms and enterprises – in SMEs in the first place – are still not sufficiently aware of the importance and merits of working informal carers for older people.
	Help to inform the firms and economy about positive characteristics and qualities of working informal carers for older people. Demonstrate the pertinent possible contribution of ICT. Many informal carers for older people are good and valuable employees, which should be retained by offering them support and good working conditions.
Patient and carer organisations	**Pay more attention to the situation, problems and needs of working informal carers for older people and help to improve their support and reconciliation of their working and caring duties.** Also the patient and carer organisations have not yet paid sufficient attention to the situation, problems and needs of working informal carers.
	Establish public discussion fora about the care needs and preferences of current and future older people and about the pertinent role and possible contribution of modern ICT. One of the most important challenges and changes in future will be changing care needs and preferences of older people. Since very little is known about them and about pertinent differences between current and future older generations, patient and carer organisations should help to launch a public debate on this issue.
	Preparatory research and consultative actions
European Commission	**Establish a robust and harmonised European data base on informal care and informal carers for older people.** There is a strong need for better and better comparable data on informal care and informal carers. The deficits are particularly severe with regard to the participation and time use data, but also the data on the current use of ICT solutions and technology supported applications in informal care and pertinent knowledge and awareness about them.
	Tender and implement a European study on the impact of ongoing reforms in the field of social policy - e.g. introduction of carer allowances, direct financial support and autonomous budgets for care recipients - on the readiness and likelihood to use ICT- and technology supported solutions in informal care. In many European countries social policy reforms introduce such new instruments which will have significant impacts on the use of modern ICT and other technologies in professional and informal care for older people. It is difficult to predict the intensity and direction of this impact and a scientific study in several European should countries should help to clarify to clarify this question.
	Tender and implement a study on the reasons and motives of the low technology acceptance and widely spread technology sceptical attitudes of many relevant actors in informal care for older people. The low technology acceptance, fears and technology sceptical attitudes are one of the most important obstacles of more frequent use of ICT and modern technologies in informal care for older people. We should know more about these phenomena in order to be able to suggest the right measure how to overcome them.

	Develop and promote new concepts and models of informal care and its combination with employment, voluntary work and civic engagement in future societies. Demonstrate the pertinent possible ICT contribution. In section 3.3.2 we have expressed our expectation that in future more informal carers for older people will combine this activity with paid employment, voluntary work and various forms of civic engagement. A scientific study or research project should analyse more in-depth the likelihood, synergetic effects, problems and specific forms and constellations of such combinations.
	Develop and promote convincing concepts and models for sharing the caring responsibility ("care-sharing"). Demonstrate the pertinent possible ICT contribution. Care-sharing could be one of the specific forms and combinations of informal care for older people in future. Again, it would be interesting and important for the purposes of policy making to know more about the presuppositions, synergies and problematic consequences and obstacles of this joint responsibility of more informal carers for one older person.
	Develop further convincing models of financial reimbursement and allowances for carers and their caring work. Many – if not most – informal carers for older people do not feel properly acknowledged and rewarded for their caring work. In future this aspect and a feeling of balance between giving and getting back will be even more important since from future informal carers we can expect less frequent self-sacrifices.
	Analyse the reasons for slow learning progress and suggest new and more efficient ways how to learn from successful pilot and demonstration projects; improve the implementation and exploitation of scientific knowledge and results of research projects. Promising path for improvements are experiments in real life situations and funding of follow-ups to pilot projects after the primary prove of the technical feasibility of ICT supported solutions.
	Long term policy and other measures
European Commission	**Help to improve the legal situation, training and education possibilities and the job security of informal working carers.** Above mentioned voluntary measures will not be sufficient for a real improvement of work-life balance and occupational opportunities of informal carers for older people. For a real significant increase in the number of working informal carers, more binding measures like law regulations and financial incentives will be required.
	Help to develop and promote new concepts and models of informal care and its combination with employment, voluntary work and civic engagement in future societies. We have mentioned such new models and concepts already in the above section showing the necessary preparatory research and consultative actions. After the realisation of pertinent research projects it will be a long term policy task to promote and implement such new alternative models in practice.
	Help all EU-member states to overcome the institutional fragmentation of responsibilities and improve the co-operation between actors and institutions in charge of social policy, active ageing and ICT promotion policies. As already mentioned in relation with the roadmap1a, the diagnosis and statement about the institutional fragmentation of responsibilities and the need to improve the co-operation has been made in both workshops of the work package, but again neither the workshop participants nor the author of this report are able to propose a remedy in this relation.
	Promote structural changes and harmonisation of current nation care delivery schemes and improve hereby the conditions for the implementation of ICT supported solutions in informal care for older people. Pertinent efforts will stimulate the attention and activity of technology producers and service providers in this sector.

Improved use and quality of care relevant information and resources

The information needs of informal carers for older people can be satisfied in form of personal consultation or with the help of electronic media like Internet. The utilisation of available care relevant electronic information poses high demands and many current informal carers do not have access to pertinent information or do not how to use it. The quality and correctness of available information is another problem and field for future actions and improvements.

The most influential actors and stakeholders who can deliver key contributions in this respect are the European Commission and information and service providers. Some measures address also the European patient organisations and organisations of informal carers.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of actors and stakeholders. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions. In medium and long term we suggest to replace and/or complement measures with voluntary and self-declarative character with quality control performed by independent specialists who are not related to information producers and care support services.

	Near-term policy and related measures
European Commission	**Control and improve the quality of care relevant information and care relevant resources.** It is a well known fact shown in many pertinent studies and research projects that the quality of care relevant information and resources is not sufficient in many cases. European Commission should help to introduce different measures and systems of quality control in this respect and relation as well.
	Help to improve the skills and competence of carers to use and benefit from available information; and not to drown in an information flood and avalanche. Many current informal carers for older people do not know how to use or use properly modern information and communication technologies. Even if the ICT access and use skills of future informal carers will be better, they will also have to learn how to benefit properly from using modern ICT in informal care for older people.
	Improve the market transparency, visibility and standardisation of ICT supported solutions, applications and services in care for older people. Overcome the selective perception of informal carers and other actors with regard to what is available. There exist many mature products and devices that have proved useful to support older people in their day to day activities, many of which are not necessarily based on complex ICT systems. However, in many cases it is not known to those who would need them what is available and how it works. What is perhaps most urgently needed when it comes to "self-purchasers" is a reliable overview of what is available and what actually works well. In the process of elaboration of such overview and in the later stage of informing different target groups about available technology supported solutions, ICT can also play an important role.
Information and service providers	**Develop and design products and services with an explicit aim to support working informal carers. Think of informal working carers as future and growing segment of clients and customers.** We have mentioned the same recommendation and justification already in connection with the 2a roadmap.
Patient and carer organisations	**Help to improve the quality of care relevant information and care relevant resources. Help to improve the skills and competence of carers to use and benefit from available information; and not to drown in an information flood.** The patient and carer organisations should participate in the above recommended efforts of the European Commission to improve the ICT skills of informal carers for older people as well as the quality of care relevant information and resources.
	Preparatory research and consultative actions
European Commission	**Establish a robust and harmonised European data base on the use of informal care relevant information and resources.** There is not much national and European data available on the use of care relevant information and resources.
	Develop and implement new convincing concepts and models of quality assurance for care relevant information and resources. Because there are several options and possibilities how to achieve this goal, the necessary improvement in quality of care relevant information and resources is not only a task for policy but also for research.

Integrated care planning and management: Better communication and co-operation in informal care for older people

The last roadmap and field of action discussed in this deliverable is related to the use of information and communications technologies as means for integrated care planning and management and for better communication and co-operation of informal carers with the care recipients and other care relevant actors.

The most influential actors and stakeholders who can deliver key contributions in this respect are the European Commission and the European patient and carer organisations.

In the following three sections we list the pertinent policy actions and other measures. Most possible short term measures are legally not binding and aim at improved awareness of

actors and stakeholders. The preparatory research and consultative actions have the objective to gather comparative data and improve the database for policy decisions.

	Near-term policy and related measures
European Commission	**Promote and support the incorporation of ICT applications and solutions in care service delivery throughout Europe. Encourage the development, take-up and diffusion of IST-based solutions in care for older people.** One of the reasons for lacking communication and co-operation in informal care for older people are just habits and routine of doing things in the usual way. The introduction of technical hardware innovations interrupts these habits and routine is therefore often accompanied by better organisation and improvements in the software field as well.
	Implement an awareness and knowledge raising campaign about the necessity to pursue integrated strategies and improve the co-operation in informal care for older people. Demonstrate the pertinent potential of modern ICT. The campaign should be addressed to the following target groups: Policy makers, carer and patient organisations, other actors in care for older people and their organisation, general publics. Even though the experts have recognised the need to introduce integrated models and to improve the co-operation and communication in informal care for older people, many relevant actors are still not aware about this requirement and do not how to tackle it.
ICT industry and service providers	**Develop integrated solutions supporting smooth cooperation of different parties in the overall care system and in the informal care for older people.** Current research has a clear focus on showing how modern ICT can help to overcome functional limits and deficits of older people and other groups with special needs. However, this approach and focus seems to be too narrow and must be widened. Care, including ICT-based solutions, is usually provided by a number of actors (e.g. wider family, informal carers, and social service providers) that interact in many ways. Here, a truly user centred approach would need to take into account how the various actors, including formal and informal carers, can be enabled to better co-operate and support older people within their day to day activities.
Patient and carer organisations	**Use ICT as a means of better self-organisation and articulation of interest of informal carer organisations throughout Europe.** With the establishment of EUROCARERS, the co-operation between national carer organisations in Europe just started and must be further deepened and improved in coming years.
	Use ICT as a means for strengthening the co-operation between national support services for informal carers for older people throughout Europe National support services can benefit a lot from electronic exchange of experience and improve their services for informal working carers for older people.
	Preparatory research and consultative actions
European Commission	**Develop convincing concepts and robust comprehensive models for assessment and distribution of costs and benefits of ICT supported applications and solutions in informal care.** The slow diffusion and uptake of ICT-supported solutions and other technological applications in informal care have also to do with methodological difficulties how to assess attainable costs and benefits. Another related cause is the factual discrepancy between those people and institutions bearing the costs on one and those who benefit on the other side. The complexities of cost benefit considerations seem to have contributed to a situation where service provider organisations and funding bodies remain hesitant to make required investment decisions. Particularly in the case of more complex systems it seems to be very difficult to make a comprehensive cost benefit assessment.
	Develop and promote convincing concepts and models of incorporation of ICT and ICT-supported solutions into existing structures and practice of organisations. It seems not yet well understood how to incorporate ICT solution into existing practices from an organisational point of view. Research is needed to shed light on the specific issues that may arise intra-organisationally if ICT innovations are to be mainstreamed in a sustainable manner. These include for instance challenges that may be posed by staff resistance to change, including the historical ambivalence of social care workers towards technology because of a perception that it may be dehumanising. There may also be issues associated with redeployment of staff, including redeployment of time that might previously have been spent travelling to clients. More generally, ICT based solutions may often involve a need for multidisciplinary approaches and may even require the emergence of new occupational profiles.
	Tender and implement research projects about the reasons and obstacles of better communication and co-operation in informal care for older people. Demonstrate the

pertinent improvement potential of modern ICT. A better knowledge about the obstacles and their reasons would help to make the right decisions and implement effective and efficient measures.
Analyse the reasons for slow learning progress and suggest new and more efficient ways how to learn from successful pilot and demonstration projects; improve the implementation and exploitation of scientific knowledge and results of research projects. Promising path for improvements are experiments in real life situations and funding of follow-ups to pilot projects after the primary prove of the technical feasibility of ICT supported solutions.
Investigate and promote new alternative models of informal care for older people combining employment, leisure and various forms of voluntary work and civic engagement This is an important task, not only for policy but also for research.

3.3 eInclusion in relation to online services

As online applications increasingly penetrate all spheres of life, their utilisation as well as non-utilisation increasingly has an impact on people's every day life, on market developments and on the society as a whole. These impacts pose both new risks and opportunities in relation to eInclusion: On the one hand, ICTs have frequently been ascribed to hold the potential to improve the quality of life of citizens, the efficiency of social and economic organisation, and even to reinforce societal cohesion.[11] Social gains can be achieved by improving access to and quality of services of public interest and by reducing disadvantages posed by constraints in time and place that may arise in relation to more traditional modes of service delivery. However, on the other hand it has become evident that certain population groups do not sufficiently reap those benefits and moreover there is evidence that – as with all major socio-technological changes - ICTs can also introduce new participation barriers, human isolation and alienation for some population groups.[12]

The strategic challenge for eInclusion related policies directed towards inclusive online service provision is thus a twofold one. On the one hand, it needs to be prevented that particular population groups 'fall through the net' in the sense that they are unable to utilise online services of common interest due to unconsidered user requirements they may have ('online challenge'). On the other hand, the challenge is to fully exploit the potentials online services may hold to overcome rather traditional forms of societal exclusion certain population groups may face ('online opportunity').

Potential risks caused by increased online service provision

Usage and non-usage of ICTs in general and online services in particular have started to increasingly impact on core aspects of people's lives and the fact of being connected or disconnected to the online world has started to impact on people's ability to participate in common economic, social and cultural processes. In particular when it comes to public services that have traditionally been delivered offline ensuring universal access and outreach to all population groups have become an important concern for policy makers. Otherwise, there is a risk that the increasing provision of services in online modes may accentuate existing disparities in service access and usage or even create new digital divides.

When it comes to more tangible disadvantages that tend to be associated with non-engagement in the online world a number of aspects of life can be identified where the "old"

[11] Kubicek, H. (2003): Von Technikakzeptanz zur digitalen Integration. Fortschritt in Worten und Taten? Published in: Klumpp, D., Kubicek, H. and A. Roßnagel (2003): Next generation information society? Mössingen-Thalheim.

[12] European Commission (2001): eInclusion- The Information Society's potential for social inclusion in Europe. Commission staff working paper with the support of High Level Group on the Employment and Social Dimension of the Information Society (ESDIS). Brussels 2001.

media and "old" ways of participation have started to become insufficient to effectively participate in society.[13] This concerns on the one hand economic participation in terms of employment. Here, digital skills and online media have become of increasing relevance in relation to employability and opportunities to search for a job. More and more job offers are now being included into online job portals, making it difficult to access the whole range of job offers without access to the Internet and thus reducing opportunities to find a job. Moreover, educational participation increasingly relies on engagement in digital technologies. For example, access to ICTs in general and the Internet in particular has started to become a necessary prerequisite to achieve specific training and higher education, and this requirement is rapidly "trickling down" to lower educational levels. In addition to this, evidence shows that prices on electronic markets tend to be lower than on offline markets, which benefits consumers being connected to the online world.

These observations lead to the threat that those people who could potentially benefit most from online services, e.g. people with functional restrictions or older people with movement restrictions, could fall further behind. This does not merely relate to online transaction of services but to communication with public servants and personalised information services in the field of government services, health care and social insurance as well.

With regard to eInclusion policy, trends in relation to access to and usage of ICT and online services among different parts of the population show that structural disparities in the access to online media do not seem to diminish as rapidly as policy and scientific debates about the unprecedented growth of the internet sometimes suggest. And even where the overall access divide in the virtual space has narrowed down to a noteworthy extent, not all population groups seem to benefit from this development on equal footing. As a general trend, the usual patterns of social stratification seem to be reflected in the virtual world as well, in terms participation patterns. Also, a considerable share of the overall populating, e.g. people with disabilities and many older people, tend to be hindered to engage in online activities due to the simple fact that current technologies and services do not adequately cater for specific functional restriction they have. In future, this aspect will become even more pressing in terms of increasing demand for online services that are truly accessible for people with functional restrictions due to the accelerating trend towards population ageing.

Full access to online services can however not be reduced to the ability to physically access the services in question. Recent research revealed that utilisation of online services is currently far from being ubiquitous not only due to lacking access in terms of technological infrastructures but also due to lacking ICT skills. More recent studies on the digital divide confirm for instance, that user education and skills tend to become discriminating factors in the effective use of online services, once the "access divide" is narrowing. However, appropriate skills are a necessary requirement, but by no means a sufficient condition for usage of online services and people's full participation in the information society. Equally important are the purposes for which the Internet, and other ICTs such as mobile end devices, are used, and the personal benefits derived from utilisation of these tools.

From an eInclusion angle, it is thus important to notice that the digital divide should not be seen as a transitory phenomenon that diminishes as online technologies reach wider deployment levels. Rather it needs to be seen as a persistent and "evolutionary" phenomenon.

[13] Van Dijk (2005): The Deepening Divide.

Opportunities for social inclusion

At the same time current evidence suggests that a large number of opportunities exist when it comes to harnessing the inherent properties of online media for the purpose of social inclusion and cohesion.

As already discussed above there are for instance examples where online services have been successfully applied to facilitate access to employment or to educational resources. The relevance of facilitating access to employment or educational resources is linked to the fact that employment is often seen as the best route to social inclusion, especially in terms of providing the way out of poverty. Being in employment is commonly found to be the most important protective factor against poverty. Here, online media can be seen as a tool for different types of support including for instance training to improve employability, job-seeking and vocational guidance as well as eWorking to provide employment opportunities for disadvantaged groups and to bring work opportunities to (geographically) disadvantaged areas.

Opportunities can also be observed with regard to exploiting the networking capabilities of online media since they can open up opportunities for at-risk groups and indeed empower these to address their own needs in an independent manner. They can vary in the nature of the issues addressed, ranging from targeted measures to promote bonding networks for those at risk (facilitating social linkages with family, friends and community) to the promotion of bridging networks for those at risk (facilitating links outside one's usual community of contacts).

There are also examples where online media have been harnessed to promote and facilitate civic engagement and participation of at-risk groups in political and governance processes. Increased civic engagement and political participation can be a basis for promoting social inclusion but it is likely that specific targeting and support for at-risk groups is required if they are to be reached and effectively engaged in active citizenship.

eLearning also presents opportunities for facilitating self-directed personal development and lifelong learning of at-risk groups. This includes the use of eLearning as a facilitating tool for returning to mainstream education, specifically targeted measures to provide appropriate learning content for at-risk groups and encouragement of at-risk groups to exploit the new forms of access to information and education on the Internet.

Another area where online services hold potentials for social inclusion is related to the development of online content that is of particular relevance for groups at risk of social exclusion such as ethnic minorities, low income groups, many older people and people with disabilities. Online content and services specifically targeted at the needs, interest and requirements of these people can clearly contribute to social inclusion by providing practically useful content and services and have also the potential to extend into further areas such as providing culturally appropriate content and services. The opportunity that at-risk groups have become content creators themselves and not just consumers of content created by others is a further example in this regard.

Potentials for societal inclusion are also observable in the area of independent living for older and disabled people. Although various applications such as telecare, telehealth and smart homes are emerging in Europe and basic telephone-based social alarm services are already well developed in some countries there seems to be considerable demand that has not yet been addressed. A considerable share of older Europeans who are in need of help with activities of daylily living (e.g. in relation to personal hygiene, seriously restricted mobility and

shopping) do for instance not seem to receive the required support, neither through formal care services nor through informal support networks.[14] The ongoing demographic change bears the risks that this "care gap" may even widen by the time. Counteracting these developments has become one of the core issues when it comes to harnessing the potentials generally provided by technological innovation in relation to the demographic change.

Challenges evoked through technological change

As already discussed in earlier project reports the term eInclusion and the eInclusion domain accordingly – in the sense of a dedicated research and policy field – are still evolving and further developing. Complexity is added through the fact that eInclusion policies face the challenge of addressing a "moving target" rather than of a "definite approach". As the deployment of existing technologies in all aspects of the economy, services and everyday life is progressing apace and new technologies tend to continuously emerge, corresponding "new" challenges can be expected to emerge on the eInclusion policy agenda as well. Continued technological change, and societal practices relating to it, is going to generate both new socio-technical risks and opportunities calling for an adequate policy response.

For example, the Internet as it has emerged during the last decade is undergoing continued changes in terms of technologies used for providing and retrieving content as well as services and applications available. The debate recently emerged around "Web. 2.0" applications may serve as an illustrative example: The term "Web 2.0" has now come to wider use in relation to a large number of services, tools and gadgets used in web design and web development with the overall aim of making the web more interactive and more convenient for different personal uses. These trends are likely to pose new eExclusion risks that go beyond those that have up to now been tackled by means of existing web accessibility guidelines but, on the other hand, may provide opportunities as well. Social networking has for example attracted increasing interest recently as indicated by the spectacular growth rates of Web 2.0 applications including the use of blogs, wikis, community platforms and publishing of self-generated content via the Internet. Arguably, the possibilities for participation in civic society have already undergone profound change as a result of these developments.

Digital broadcasting technology also holds the potential for more interactive uses when compared with a traditional (analogue) TV. Content can be transmitted both ways, to and from the viewer. As a consequence, at least in principal, the role of the end users changes from a mere recipient of delivered content towards an active user of interactive services, let them be provided by commercial or public parties. This opens up new possibilities to reach disadvantaged population groups, e.g. in the context of eGovernment, eHealth and eLearning schemes. In the other hand there are certainly also threats with regard to eInclusion, because of increasing complexity in relation services offered via digital TV and technologies used for accessing them. From the user perspective, digital television equipment and services are significantly different from analogue television equivalents. Also, a greater number of channels, and additional features are available so that users of digital TV equipment are required to use their remote controls more extensively (in combination with on-screen menus) to choose channels, and navigate through information and options. For

[14] CF. For instance SeniorWatch (2002): Older people and the Information Society. Deliverable no. 5.1: Older People and Information Society Technology - A Comparative Analysis of the Current Situation in the European Union and of Future Trends. Online available at: www.SeniorWatch.de

some population groups such as older people or people with disabilities utilisation of broadcasting programmes therefore becomes more difficult or even impossible.

Mobile networks and phones now enable (nearly) ubiquitous availability which can potentially be of great benefit for example in calling for help in emergency situations. An ever increasing functionality of mobile phones (more and more becoming smart-phones, i.e. combinations of phones and personal information managers (PIM) and the offering of value-added information and alerting services, including location-based services are also opening new possibilities. However, there are considerable concerns about the fact that these new mobile products and services will be fully accessible for all people.

Another technology trend that is likely to impact on the inclusiveness of the online world concerns the convergence of technologies. The trend towards technology/media convergence – involving different technology domains such as telecommunications, consumer electronics and broadcasting – offers new levels of flexibility in relation to ICT uses, but may increase the level of complexity the end user faces. The latter may result in higher thresholds regarding usability and ease of use, especially for people with disabilities and inexperienced users. Particularly in their initial forms, converged devices are frequently less functional and reliable than their component parts. Further, as single devices address a wide spectrum of consumer needs, breakdowns and problems become more likely, and more disruptive to the consumer.

Beyond technological convergence of personal computing and broadcasting, there are a range of other technology developments that are expected to have an impact on everyday life. New developments in the area sensors, mobile networks and smart homes are expected to contribute to the emergences of an environment in which humans sooner or later will be surrounded by intelligent interfaces supported by computing and networking technology embedded in everyday objects such as furniture, clothes, vehicles, roads and smart materials and the like. In this context, the term “Ambient Intelligence” (AmI) has been coined for a new research and technology paradigm that is expected to strongly impact on the wider living (and working) environment in terms of enabling more independence for people who otherwise depend on the support of others. In this context, new interactive services delivered into networked homes and the wider environment hold the promise to promote independent living of people with functional restrictions and chronic conditions, thus facilitating their inclusion into the society in general. However, concerns have also been disclosed that ultimately the inherent saving potential of ICT may become the main driving force towards uptake on remote care and support, and that quality of service may be neglected.[15] Clearly such a development would bear the risk of a creeping de-humanisation of the personal circumstances of dependent people. This relates on the one hand to the question whether increased ICT utilisation might erode human support practices and thus increase the risk of social isolation. On the other hand, the question arises whether ICT-mediated care and support processes increase the level of intrusion into the private sphere, e.g. in case of dwelling-based monitoring systems, and whether the individual remains able to keep control in procedural and/or informational regard.

[15] empirica, WRC (2005): The Demographic Change – Impacts of New Technologies and Information Society. Final report prepared for the European Commission, DG Employment, Social Affaires and Equal Opportunities.

Selection of themes for focused attention

For the online services topic, two main policy themes were selected of particular interest and attention in order to provide an evidence-based support for stakeholder dialogue and policy formulation. These two themes address

- eInclusion research and policy activities directed towards inclusive of online services and,
- Monitoring of progress in the field of eInclusion.

The selection of themes was oriented towards identification of themes where the project was expected to make the most useful contribution, e.g. focusing on themes where there is already a clear political will but not yet any widely accepted. After selection of these two themes, work within each theme followed a similar approach, i.e. gathering information on the situation at European and national level, presenting results at stakeholder workshops and formulation policy recommendations as a result of workshop discussions. These are described in more detail in the following sections.

3.3.1 Activities pursued in the Member States

eInclusion research and policy activities directed towards inclusive of online services

Member States have reported on policy activities and measures addressing each of the eExclusion threats discussed above. Overall, different types of policy measures in the area of eExclusion have been reported including general Information Society policies, policies addressing the lack of access to ICTs and online services by disadvantaged population groups, policies addressing the ICT skills gap between different population groups and policies addressing regional disparities in access to ICT infrastructures. The situation in the Member States can be summarised as follows:

- Most of the Member States have reported on the implementation of general Information Society strategies in their countries. These strategies are often induced by merely economic objectives such as strengthening innovativeness or competitiveness of the respective country. However, the majority of Member States has included aspects of eInclusion in their Information Society Strategies and also many Member States have launched programmes and activities aiming at counteracting access and usage divides in their countries. In addition to these Information Society Policies, some Member States also address eInclusion related issues in their National Action Plans for social inclusion. However, the extend to what eInclusion is targeted in these plans varies significantly.
- Policies addressing lack of awareness of and access to online services by disadvantaged population groups are also widely spread in the European Union. Almost all Member States have for example launched programme(s) to implement Public Internet Access Points. Taking into account that discretionary access from home offers significant advantages in terms of convenience and privacy, some Member States have also implemented programmes aiming at increasing access to ICTs and online services. Many Member States also reported on the implementation of political strategies to combat the digital divide. These strategies are often addressed at combating the lack of skills of disadvantaged population groups, but much emphasis is also still on raising awareness and access levels amongst the population.
- Many Member States are now putting efforts in increasing ICT skills of the population and in particular of disadvantaged population groups. This is a political response to the fact that ICT literacy is fast becoming a basic skill and prerequisite for economic. Institutional and educational participation on the Information Society. ICTs are also seen as a means of facilitating learning and training of disadvantaged population groups. Some Member States thus reported for instance on dedicated employment plans targeted at disabled or

older people and using eLearning methods to increase skills and thus to facilitate labour market integration.

- Policies addressing regional disparities are often focused on the implementation of broadband strategies and programmes which aim at implementing adequate broadband infrastructures in all regions and parts of the country.

With regard to policy activities promoting inclusive online service, most of the Member States have launched dedicated eGovernment strategies or plans in their country. The majority of these strategies and programmes outline the importance of providing inclusive online services for all citizens independent of their age or their mental and physical abilities. Furthermore, these strategies in most cases address availability and accessibility of online services with the aim of creating more public access points for administrative services, and to ensure better access for all citizens. National eGovernment strategies also often include the implementation of an online portal for citizens where several administration services are offered. Almost each Member State puts efforts in designing these portals on a WAI compliant manner. Some Member States have also reported on regional activities aiming at providing access to e-government services through digital TV as an alternative to the Internet connection.

Rather different policy fields have been regarded as important in the independent living area. Of some importance seem to be programmes and strategies aiming at improving the quality of health cares services which many Member States have implemented so far. Only a few Member States reported the existence of centres promoting independent living. One example is the Centre for Independent Living in Ireland which has embarked on research in the area of independent living comprising a number of case studies. Related to policies in the area of independent living are also policies empowering family carers and policies and initiatives under the ambit of social policies.

Some activity has been reported with regard to dedicated policies in the area of promoting eServices specifically directed towards social inclusion of at-risk groups. Again, different types of policy measures can be discerned in this regard:

- The majority of Member States have implemented online job and information portals for their citizens. In addition, some Member States have also implemented online job and information portals that are in particular targeted at disadvantaged population groups.
- Furthermore, many Member States have launched online portals which provide helpful information for disabled and older people.
- Online learning platforms and portals in particular targeted at disadvantaged population groups have also been reported in a few Member States (e.g. Ireland and Sweden).

When it comes to research activities pursued on the national level, currently many national research projects seem to be geared towards the “independent living” theme where different thematic foci such as smart homes, remote support or AmI are addressed. On the contrary, according to results from the Member States, little attention seems to be given to research in the area of designing online services in an inclusive manner and also in the area of eServices for social inclusion. Research projects in the area of eExclusion seem to focus on the aspect of access to ICTs in a narrower sense, e.g. on how to promote public internet access points or cheap ways of online access or on bringing broadband connections to the most remote corners of the country. A closer look at research activities reported by the Member States reveals different thematic foci of attention as summarised in Exhibit 5.

Exhibit 5- Inclusion research topics

eExclusion	Inclusive Online Services	Independent Living	eServices for social inclusion
• **First order digital divide research** • **RTD on Assistive Technology** • **RTD on learning software and tools** • **Distance bridging**	• **Developing and exploiting emerging technologies for inclusive online services**	• **mobility enhancement** • **remote social and medical care,** • **smart homes** • **robotics** • **Ambient Intelligence**	• **Information portals promoting social inclusion**

Monitoring of progress in the field of eInclusion

The area of *quantitative monitoring* is a very active research area in all Member States, at least when compared to other monitoring areas such as qualitative stock taking or policy evaluation approaches. All National Statistical Institutes (NSIs) in the EU are obliged by EU legislation to carry out the "Community Survey on ICT Usage in Households and by Individuals" once per year. This survey provides data broken down by age group, gender, educational attainment etc, which is then collected and published by Eurostat. Apart from this survey almost each Member State is carrying out quantitative surveys that cover eInclusion related aspects.

However, a considerable variety can be observed in relation to frequency: Many countries have regularly, i.e. annual, surveys in place which are then supplemented by surveys with a more narrow focus with regards to topics covered and often undertaken as one-off surveys or an a rather irregular basis. The majority of national surveys are mainly monitoring/measuring access to and usage of Information and Communication Technologies, so that there is a rather clear picture deriving on the so called “have-nets” and “have-nots”. However, there is still not much knowledge about non-access and non-usage. For policy makers it is, apart from learning about patterns of ICT usage by Internet usage important to get an insight about the rather large group of non-user of different ICT applications such as public online services. Furthermore, measurement of impacts of ICT usage is still in its infancy and we also don’t have good knowledge about the so-called second order divides, which divides different onliners. With regard to a comparison of existing monitoring approaches in the old Member States with monitoring and measuring approaches in the new Member States, one can observe a slight majority of regularly (i.e. annual, quarterly) ICT surveys in the old Member States.

Almost all European Member States have implemented *qualitative stocktaking approaches*. One can observe a wide range of different qualitative stock taking approaches taking place across Europe. They range from competence networks supporting the integration of disadvantaged population groups, expert groups and roundtables directed towards overviewing developments that are relevant for eInclusion, regular events and awards. Furthermore, research projects were identified addressing eInclusion issues which apply qualitative rather than quantitative research techniques.

Most Member States have implemented working groups or networks in their countries which are often focusing on the target group of older and disabled people. This category, which is often a kind of link between (academic) research and other entities, seems to be the most widespread qualitative monitoring approach across Europe. Digital Divide fora have been implemented in some of the Member States, being central information point in relation to the digital divide or eInclusion. Also, in some Member States mailing lists have been launched

for disadvantaged population groups in order to facilitate the exchange of experiences and to spread information about useful tools and services. Many Member States are organising conferences or smaller workshops on IS related topics which help to get an insight on what is currently discussed in the country. However, conferences and workshops reported were often focusing on the Information Society in a more general way and did not explicitly deal with eInclusion related issues. These topics seem to be more prominent for working groups and roundtables.

Not many Member States have reported any awards or best practice competitions.[16]

National qualitative research in relation to eInclusion monitoring has been reported by several Member States. National activities range from research projects which are aiming at monitoring access to and usage of ICTs of disadvantaged population groups to dedicated research programmes and research papers. Qualitative research efforts seem to address a wide range of target groups and are not focusing on older or disabled people as it is the case for networks and roundtables.

All in all, qualitative monitoring of impacts of ICT usage appears to be not very prominent in the Member States. However, qualitative research projects or papers addressing eInclusion issues seem to be an exception as they are quite often addressing and analysing effects and impacts ICTs have in relation to digital and/or social exclusion. This is in particular worth mentioning since the majority of countries do not reflect impact related issues to a large extend in their quantitative monitoring approaches. It appears that a mix of quantitative monitoring of access and usage combined with impact assessments be means of qualitative research methods is a rather common approach in many Member States. Most Member States also have implemented committees responsible for eInclusion strategies. In addition, some countries reported that they have commissions or committees in particular focusing on disadvantaged population groups such as the Italian CNIPA.

The most encouraging result with regard to *eAccessibility monitoring* is that in many Member States eAccessibility of (public) website is being evaluated in one form or another. However, there are many different approaches across and even within countries which aim at assessing eAccessibility of national websites. A considerable variation can also be observed with regard to methodologies applied: Methodologies range from surveys, self-assessment of eAccessibility compliance or certification schemes, manual test methods and automated testing. Furthermore, there is a wide national variation with regard to frequency of eAccessibility measurements and monitoring. Not many Member States have reported a regular and permanent survey aiming at identifying eAccessibility of national websites.

Existing ongoing monitoring approaches overwhelmingly concentrate on public websites' conformance with eAccessibility guidelines. This appears to be a result of the fact that many Member States in the meantime have launched a specific current target (or plan) to improve eAccessibility of public websites. This again is a result of the fact that since eEurope 2002 Member States are forced to improve WAI conformance of public sector websites.

Private/commercial websites are hardly monitored in any of the Member States. Two exceptions have been reported in Austria and the UK.

Surveys targeted at web developers or other decision makers have not been reported very frequently.

[16] Please note that many Member States have implemented eAccessibility awards and best practice competitions, which are reported under this category.

When it comes to national efforts that are directed towards evaluating policies relating to eInclusion not much has been reported so far. Nevertheless, apart from the National Action Plan against Poverty and Social Exclusion which Member States are called to draw up in order to improve the fight against poverty and social exclusion by means of a constant dialogue and the exchange of information, including some policy evaluation, only a few countries (e.g. Austria, Denmark, Finland, Ireland, Poland, Switzerland and the UK) have originated first steps of policy evaluation approaches.

3.3.2 Stakeholder workshops

Two workshops have been conducted within the framework of the online service theme. Main aim of convening and facilitation of these workshops was to implement and support an informed stakeholder dialogue amongst key eInclusion stakeholders. The workshops were generally addressed at stakeholders and experts from the policy and research area working in the fields the workshops dealt with, in order to exploit the stakeholder/experts' work experiences for the workshop discussion in an optimal manner. Thereby it could be guaranteed to get workshop results that are of high practical relevance and in this way generating policy proposals that are both well grounded and are likely to accelerate progress towards the eInclusion and eAccessibility policy goals set in the "Lisbon Strategy" and elsewhere in EU policy.

The first workshop conducted within the framework of topic III entitled "The potential contribution of FP7 research to a well functioning European Policy and Research Area on eInclusion" focused on identifying how ICT-related research and technology developments can contribute to the achievement of eInclusion-related policy goals. One of the main aims of the workshop was to facilitate a better understanding of the social and equality-related dimensions and impacts of ICTs in order to enable a focusing of EU-level RTD and policy programmes respectively. The event took place at a time where the Commission was in the progress of preparing the next Framework Programme and a particular focus was therefore on debating issues to be considered by future research. The workshop was attended by 60 participants from various arenas such as academic research, industry, user lobbying and policy.

Key messages derived from workshop discussions include:

Addressing existing and emerging eAccessibility issues

There has been considerable progress in making certain technologies and services accessible to the "non-average" user when compared with the state of affaires observable 20 years ago. For instance, personal computing systems have become more accessible through screen readers, large font, speech output and so on. However, many disabled or elderly people still have difficulties in using mainstream products or mainstream products in combination with assistive devices and much still needs to be done if the availability of both accessible mainstream ICTs and specifically designed assistive technology tools are to be maximised.

It was for example highlighted that there is still a lack of compatibility of devices and products with assistive services. Since people are using the products and services and the software, applications and contents, all these building blocks have to be accessible. Here, the introduction of a reliable certification and standardisation scheme and consideration of incompatibility when certifying accessibility of products and services has been suggested by workshop participants. In general, standardisation

has been identified as an area where European level action would be particularly appropriate and effective.

In addition, it was suggested to investigate if existing accessibility guidelines such as the WAI guidelines could be extended towards newly emerging technologies and devices (e.g. Web 2.0, mobile gadgets) and to investigate where new accessibility guidelines and tools need to be developed. For instance, emerging dynamic formats of web content pose new threats to eAccessibility. Specific research topics identified included automatic accessibility options, inclusion of semantics in information provided to make content accessible or easy-to-use tools for subtitling.

The importance of establishing standards for emerging applications and products in the mobile arena was also emphasised. Here, it was stressed that mobile devices are more and more playing a key role in the daily activities of many people and offer enormous potential for improving the quality of life. However, concerns have been expressed about the fact that these new products and services and their content will be fully accessible for all people. Convergence of technologies and further developments in the mobile arena lead to new levels of flexibility on the one hand but may increase complexity confronted by the users and may lower the usability and ease of use on the other hand. Another point that was raised in this regard concerned the fact that the increasing prevalence of services that provide content on mobile devices increases the necessity to simplify the processes of searching for content using these mobile devices. This particularly affects people with disabilities since the human interfaces of mobile devices- small screens and limited keypads- make it difficult to uses these devices.

Another key point that emerged from the discussions concerned the inclusion of eAccessibility requirements as a horizontal issue for FP7 projects.

Harnessing online technologies to address social at-risk groups

It was felt that new technologies have great potential for social integration of disadvantaged population groups. Here, it was for example pointed out that the provision of services through multiple channels could serve as a solution to some of the problems that are currently faced by disadvantaged population groups in accessing social services. The more inclusive provision of services through successfully exploiting new and innovative channels such as mobile telephones, digital interactive television was regarded as a mean to potentially facilitate a better outrange of social services. Web 2.0 was seen to offer opportunities for people at risk of exclusion. The common denominator of Web 2.0 developments is that they produce websites that resemble desktop applications, and that they are usually geared towards facilitating the cooperation of people and/or the sharing of information. Thus, Web 2.0 technologies could facilitate new online communities, thereby empowering disadvantaged population groups and reducing social exclusion.

A need for experimentation with diverse ICTs within the social arena was emphasised by workshop participants. Related to this was the suggestion to implement less formal means to study new technology ideas on a smaller scale. Furthermore, the implementation of pilot projects to develop ICT enabled service concepts that meet the requirements and needs of target groups has been stressed.

Leveraging the creative potential of the social sector

Participants affirmed that, at least in general, technological innovations provided opportunities for the social sector. However, it was stressed that, in the social arena, levels of awareness of technology as an enabler of innovative service provision and levels of ICT-related expertise have so far tended to be rather low. Against this background, the workshop was regarded as an important step towards initiating a dialogue between representatives from different arenas. Thus, awareness rising on the potential generally provided by technology in the social arena was called for to leverage the creative potential of professionals working with disadvantaged groups for developing new ICT-based solutions.

It was stressed that an ever-widening range of ICTs and media applications is becoming available, and that this may open up new opportunities for social actors to better target their clienteles. Experiences from Belgium suggest for instance that disadvantaged young adults might be addressed more effectively by means of mobile telephony or podcasting rather than by classical communication channels. Much more experimentation with diverse ICTs such as interactive television, various kinds of mobile technologies, and web-based applications was called for to fathom what technologies could be fruitfully applied for what purposes and under what circumstances.

In relation to the latter, it was highlighted that entirely new service concepts may need to be developed to better exploit the inherent properties of ICTs for social purposes, rather than merely delivering traditional services via new media channels. Evidence available from the UK suggests for instance that it may well be possible to bring social services into the home of disadvantaged people, e.g. by means of digital TV, but that these services may not necessarily be regarded as useful by those ultimately targeted merely because they can be accessed remotely. Therefore, pilot projects were called for, to develop ICT-enabled service concepts that not only meet the requirements of social service providers but the needs and aspirations of those ultimately to be targeted as well. To this end, available approaches directed towards participatory technology development and design should be applied and further developed where required.

In this context, it was emphasised that those who are unable or unwilling to use ICTs should not per se become disadvantaged through wider utilisation of ICTs. Both, ICT users and non-users should be addressed through appropriate multi-channelling strategies. Access to social services and support schemes, e.g. employment schemes, should be available at the same level of quality to all who need them, irrespective of the ICTs available to the individual citizen.

As a horizontal task, continuous monitoring of technological developments and technological change from a social angle was called for.

Addressing second order divides in the virtual space

A further aspect highlighted during the debate concerns social and economic disadvantages that might stem from the lack of ability to make purposeful use of ICTs. This aspect seems to become ever more relevant because of increasing pervasiveness of ICTs in all aspects of life. The latter does not only concern increasing online delivery of traditional commercial and public services, but increasing social uses of ICTs as well, particularly in countries with high levels of internet

penetration. For instance, web technologies are increasingly utilised for self-organised activities and networking. Technical developments such as Web 2.0 and Folksonomies seem to facilitate such developments. On the other hand, there are considerable parts of the population that do not even possess basic reading and writing skills. New concepts and paradigms were called for that enable a better understanding of the types of skills and literacy that would be needed to optimally exploit the social potentials provided by ICTs, particularly the internet. Apart from this, research efforts directed towards better exploiting the inherent properties of ICTs to increase levels of basic literacy among disadvantaged population groups were called for.

Enhancing standards in the independent living domain

A number of examples touched on the barriers to independent living caused by a lack of technological standardisation. For example, different elements of home care service environments such as sensors from different manufacturers were often not compatible.

Standardisation was also a particular issue in the discussions on AmI technologies. In order to achieve standardisation, workshop participants regarded exploratory research as necessary to determine what users might want and what might be of particular help for them. At the same time, participants acknowledged a lack of existing practical experience with developed AmI technologies. Thus, the wisdom of letting prospective users determine the direction of AmI in the absence of actual experience was questioned. Nevertheless, there was a view of the need to "begin somewhere" in this developing field, standardisation being a good place to start. In general, standardisation was identified as an area where European level action would be particularly appropriate and welcome.

Investigating factors that hamper technology transfer from the research arena into relevant markets

An important part of the discussion focused on the fact that in the care sector many solutions are already available today, at least in principle, but that wider deployment does not seem to occur. Many useful solutions have been researched and extensively piloted but there is still a considerable lack of market penetration and marketable products are still missing.

Participants stressed that research on service delivery chains and stakeholder attitudes could be a useful step to examine why innovations are or not being taken up. In addition, socio-economic research enabling policy and public/private market actors to better understand market dynamics and potentials was seen as crucial.

More generally, it was felt that findings from application-related technology research would need to be disseminated to a broader audience than it is currently the case. More effective awareness raising efforts would be required, particularly tailored to relevant stakeholders. The dissemination issue would also need to be tied to 'marketing' in terms of increasing awareness of what is available and even changing perceptions of the relevance of technology.

Shaping of inclusive innovation processes

In general, it was felt that processes of technological and socio-technical innovation would deserve a lot more attention, including design and development processes and the social shaping of the technology. Until now, many ICT products continue to be designed for the more techno-affine generation and early technology adopters, whereas disadvantaged population groups have been often disregarded in design processes.

Workshop participants felt that research should focus on the development of effective methods for user involvement into technological innovation processes. This was felts to be of particular importance since eInclusion was seen as much as a process as an outcome. Therefore, users should be actively included in all aspects and levels of technological innovation processes, and it was suggested to develop innovative approaches of user participation. Within RTD projects dedicated resources would need to be allocated to this task.

There seems to be much room for improving current practice in this regard. In this context, effective socio-technical and multi-disciplinary research methods were called for. The promotion of socio-technical design in ICT development could for example be a good starting point as it is concerned with advocacy of the direct participation of end-users in the design process. Compared to traditional design methods, socio-technical design encompasses methods of networking users, developers, ICTs at hand and the environments in which the system will be uses. The development of respective guidelines for user involvement mechanisms could be an important outcome.

In this context it was also stressed that there may be a need to put more effort into investigating user needs and requirements in order to avoid over-development of certain technologies regarding features and specifications has been emphasised.

Addressing security, privacy and ethical issues

According to workshop participants, further research is in particular needed to investigate social, economic, legal, technological and ethical issues in relation to identity, privacy and security of ICTs in general and AmI technologies in particular. It was suggested to promote socio-economic research to enable a better understanding of micro-ethical (e.g. potential threats to privacy and dignity of the dependent individual) and macro-ethical impacts (e.g. possibility of widening income-related divides in access to quality of care and quality of life).

When it comes to the creation of a living environment where humans interact in a natural and non-invasive manner it was felt that the issue of transparency would deserve particular attention. Users would probably need to understand how their data are being used and handled. Furthermore, the need for trust in technology, and related issues of risk and safety, were identified as key issues for older people.

Security issues were also regarded as an important research topic. More precisely, this should include research into how to design self-configuring security systems that avoid the need for users to set up secure configurations themselves, or into the development of easy-to-use security solutions to help vulnerable people (for example older people) protect themselves.

The second workshop entitled “Towards a European approach for monitoring eInclusion” focused on monitoring eInclusion and brought together more than 70 experts from different stakeholder groupings and engaged them in an evidence-based dialogue on requirements for a coherent approach towards monitoring eInclusion-related developments at EU-level. They considered the issue in three thematic sessions that focussed on: a) The European policy context for eInclusion monitoring, b) Lessons to be learned from innovative EU-level approaches, and c) Lessons to be learned from national and regional approaches (for more information on both workshops see D 4.3).

Key messages derived from workshop discussions include:

Towards the development of a coherent approach of eInclusion monitoring

Results from discussion at the workshop reveal that various activities are taking place in European Member Sates in terms of eInclusion-related policies, multi-stakeholder activities and initiatives but also surveying the situation and developments in relation to the Information Society. However, despite the existence of various developments and surveys aiming at measuring access, usage of, and to a much lower extend, impacts ICTs have in relation to digital and/or social exclusion there is so far no well-organised conceptual and analytical framework available on a European level for mapping the range of issues that need to be measured in the field of eInclusion and the identification of at-risk groups. It is this currently rather difficult to get a comparative EU-wide picture of the current situation in relation to eInclusion and the digital divide since in each country different issues are considered and different methodologies applied. It was thus emphasised that efforts should be promoted to support the development a coherent and comprehensive eInclusion monitoring system at the European level could be helpful to improve the situation. However, there were also fears raised that a monitoring system at European level might not be the adequate level because of significant regional disparities and differences.

As a generic requirement, it was stressed that accurate measurement requires a properly defined theoretical and operational framework. Up to now, the emerging field of eInclusion policy seems not to have reached the stage of a properly defined area of public intervention, in terms of commonly agreed concepts and targets. It was suggested that a policy framework to guide further data gathering needed to be further spelled out in this regard, with the Riga declaration being seen as a starting point.

Adequate attention for different user/non-user groups

When it came to specific requirements on future EU-level monitoring of eInclusion, it was highlighted that attention should not merely be paid to the so called "first order divide" (user/non-user), but also to "second order divides" (based on categories of users). Available evidence suggests, for instance, that simplistic assumptions about the impacts of ICTs in terms of a single, or even small number of, 'digital divides' become misleading when developments in the 'knowledge-based society' reach wider and more generalised audiences. Very different styles of Internet use and types of Internet users do exist which need to be addressed based on a much better understanding of both, styles of use and different groups of users, than we have today. Different types of users have different types of usage patterns that should be taken into account. Moreover, it becomes appropriate to think of ICTs as having wide-ranging but differentiated impacts on participation in economic, social and cultural processes. However, it was stressed that current monitoring approaches largely seem to lack indicators directed at monitoring such impacts. According to workshop participants, this needs to be more carefully addressed, by considering impacts ICTs have in relation to digital and/or social exclusion, e.g. with regard to life satisfaction and quality of life, equitable access to goods and services, possibility to participate in common economic and societal processes, satisfaction with services of public interest such as eGovernment services and the like.

With regard to the development of indicators for the measurement of

impacts it was suggested that two different layers need to be addressed: The impacts emerging at individual and societal level as well as impact assessment of policy measures and activities. With regard to the latter, for example impacts of structural funds of ICT-related measures were seen as important issues. In relation to this, it was pointed out that there is currently a significant lack of longitudinal and follow-up studies.

Beyond this, it was claimed that adequate attention should be given to ICT non-users. A considerable share of the European population is likely to remain "off-line" in the foreseeable future, either voluntarily or because their ability to participate in ICT developments is hampered by personal characteristics (e.g. due to disability and/or personal capabilities) and/or life circumstances (e.g. due to their economic situation). At the same time, more and more services are now becoming available by means of ICTs, including both commercially driven and public interest services. It will thus become increasingly important to monitor whether those who cannot or do not want to participate in the online world will continue to have access to "traditional" services that are comparable - in terms of quality, price and outcomes - to those that will increasingly be provided by means of ICTs. Furthermore, it will be more and more important to assess whether difference in usage patterns are the result if personal choice or from context and to which extend difference in usage has socio-economic implications for the citizen and society.

Monitoring technological developments

In relation to monitoring access of certain population groups to ICTs it was emphasised that one should take into account technological developments and the fact that technological change keeps raising new challenges in relation to availability, access, accessibility and usability of ICT based products and services for certain population groups. It was therefore suggested to promote efforts to deeper analyse access related variables.

Sophisticated analysis of existing data

A more general need for the conceptual broadening of current benchmarking frameworks was highlighted. This would enable the development of more sophisticated indicators and information gathering methods, both qualitative and quantitative in nature. Since indicator-based monitoring relies on various conceptual assumptions and definitions, it seems important to critically review our understanding of how Information Society developments actually impact on the citizens and the society as a whole. For instance we do not sufficiently understand how ICTs are going to change the way knowledge is created, and it seems likely that more complex forms of inclusion will emerge over time. In relation to this it was also suggested by some participants to promote efforts with regard to priority setting for eInclusion monitoring.

A related aspect that received attention during the debate was the question of how to better exploit existing EU-level data sets for the purposes of eInclusion monitoring. Here, more complex multivariate statistical analysis was called for. This would however require micro data, which have up to now not been provided by the Community Survey on ICT Usage in Households conducted by Eurostat or the National Statistical Institutes. Only one-off studies, such as Seniorwatch (www.seniorwatch.de/) or SIBIS (www.sibis-eu.org/), have provided this kind of data. Also, it was stressed that there is a need for reliable and

comparable data as well as a need for the development of complex indexes which could serve as an eye-opener for complex issues in relation to digital divide developments or risk assessment.

Need for supply side assessment and monitoring

Not only the demand side but also the supply side assessment and monitoring which needs to reach beyond monitoring eAccessibility of public websites was seen as crucial. The eGovernment supply side measurements were given as an example of what could be aimed at.

3.3.3 Options for European-level action

For the online services domain, two generic policy agendas have been identified for which recommendations will be provided:

- combating risks of digital exclusion,
- exploiting online opportunities for social cohesion

The recommendations address a number of key stakeholder groups on European level:

- European Commission
- The Member States
- User and Consumer Organisations
- Regional and municipal networks
- Sectoral and occupational networks and umbrella organisations
- Eurostat
- European Standardisation Bodies
- Service Providers

In the following the recommendations proposed are presented along the two generic policy agendas mentioned above. In the following, key lines for possible action are identified for each of the two policy agendas, and in relation to these operational policy recommendations are given.

Policy Agenda 1: Combating digital exclusion

Ensuring affordability of home access to online media

Despite falling price levels in almost all Member States, non-affordability of internet access and usage remains a major issue for low income groups. Up to now, most Member States have addressed this theme by means of setting up Public Internet Access Points (PIAPs). However, there are indications that - other then initially thought - in particular vulnerable groups may not be reached by this approach to a sufficient extent. This has lead to a debate whether a better focusing on these groups would help to increase the effectiveness of the PIAPS approach. Beyond this, stakeholder opinion suggest that the real convenience benefits of online services, e.g. when it comes to eHealth and eGovernment services, especially derive from personal access at home. The biggest initial barrier may be the cost of PC purchase, and this seems to be especially the case for larger parts of the population living in economically less wealthy regions and for low income groups living elsewhere. In addition, internet connection and ongoing usage costs can be a significant barrier for those on low incomes. Beyond the PIAPs approach, in some Member States the issues of affordability has been addressed by the state or sectoral interest groups through provision of subsidies for computer purchase and Internet connections in various ways and at various

levels. However, many of these initiatives seem to be directed towards particular subsections of the population and may not always reach those who could benefits most, e.g. when it comes to provision of subsidised equipment through trade unions or employers. In the case of the latter those who are unemployed or otherwise outside the workforce and are therefore at particular risk of social and informational exclusion would not be reached. The issue of affordability thus is an area that warrants EU-level attention. There is a need for better understanding to what extent cost barriers do actually hold back at-risk groups from engaging in online services across the Member States and what the most effective mechanisms to address these barriers are, particularity when it comes to services that are of public interest. In this regard, Universal Service regulation may provide an effective lever to help shape developments into the desired direction.

Supporting coherent implementation of web accessibility policies that have started to emerge across the EU

Accessibility of public websites has been addressed as a priority issue in the EU's eInclusion policy for some years already, e.g. in the framework of the eEurope initiative. Many Member States have started to address this issue through various interventional mechanisms, ranging from persuasive measures (e.g. awareness rising through web awards) to legislative measures (e.g. in the framework of anti-discrimination legislation). At the same time, available evidence suggests that actual implementation of existing web accessibility standards such as WAICAG 1.0 across the EU has not yet progressed beyond an embryonic stage, even in those countries where accessibility requirements have been made mandatory to (public) online service providers. So far, existing "top-down" policies do not seem to have "trickled down" to the implementation level to a sufficient extent, one reason being that effective reinforcement mechanisms are still lacking.

Beyond a better leveraging of existing legislative/regulative approaches as extensively discussed in D6.2, there is an important "bottom up" dimension to this issue concerning lacking awareness, prioritisation and skills among those actor groupings in the public domain that usually interact with the citizen in online mode (e.g. municipalities, local organisations of the civil society providing services of public interest), not to mention commercial online service providers. It should therefore be examined whether existing policies could be effectively flanked by suitable "bottom-up" measures that can be implemented in the framework of relevant sectoral policies, e.g. in the field of eInclusion, eGovernment, eLearning, eHealth and eBusiness. Particularly in relation to those Member States where eAccessibility issues have only recently become part of the national Information Society agenda or of legal frameworks concerning disability, EU-wide knowledge sharing and learning directed towards the implementation level would seem useful. Also, there is a need for a common European "currency" to be applied when proving compliance with accessibility standards, e.g. in the framework of effective enforcement of existing regulation, to avoid the risk of fragmentation through a diversity of national approaches that have started to emerge.

Consolidating existing knowledge and expertise in the field of eAccessibility and usability with a specific focus on inclusive online services provision in converging technology environments

The online world continues to develop apace, and new eAccessibility challenges that have not yet been reflected by existing web accessibility standards such as WAICAG 1.0 continue to emerge. On the one hand, this concerns the technological evolution of the "traditional" PC-based online environment, e.g. when it comes to web technologies frequently subsumed under the heading "Web 2.0" that encompass a variety of services, tools and gadgets used in web design and web development with the overall aim of achieving more personalised and interactive service delivery over the web. On the other hand, convergence of hitherto separated technology platforms such as mobile technologies, interactive TV and the Internet has started to open up new opportunities for the delivery of personalised online services. Some Member States have for instance started to explore access to eGovernment services

through digital TV in addition to PC-based access to their web portals, and there are first examples of incorporation of mobile technologies into public service delivery (e.g. services directed towards unemployed).

When it comes to multi-channel delivery of online services, accessibility challenges relate for instance to limitations in the visual presentation of text and graphic due to the specific characteristics of a TV screen, implementation of screen-reader functionalities, variable font-sizes, comprehensibility of content, suitability of input device (i.e. remote control) and other issues. Some of these are well-known from the field of accessible web design while others are newly emerging and have not yet been addressed to a sufficient extent. There is a need to consolidate and were required extend existing knowledge in the field of eAccessibility – and usability as well - with a particular focus on inclusive online services provision in converging technology environments, and based on this to identify gaps that may need to be closed by means of further research efforts.

Ensuring continued access to services of public interest

During recent years considerable efforts have been made in almost all Member States to increase levels of online service provision in the framework of national eGovernment initiatives. The increasing utilisation of ICT to deliver public services (especially eGovernment and eHealth) brings an eInclusion dimension to the debate on the protection of so called "services of public interest". Issues of concern include making sure that online services are accessible for and usable by at-risk groups as well as ensuring that those citizens who are not online have equal access to services of public interest.

Stakeholder opinion suggests that these issues have received much consideration yet. Only in some Member States initiatives have emerged with the aim to ensure that alternative, i.e. more traditional, modes of access (e.g. face-to-face, telephone) remain available in parallel with online offerings. Also, there have been initiatives seeking to facilitate wider reach of relevant services by providing multi-modal service delivery including utilisation of more widely available devices and appropriate platforms such as digital television of mobile telephone, for example. Some attention has also been given to eService usability for at-risk groups such as "plain language" and information provision in all key minority languages. All in all, the question whether at-risk groups may become disadvantaged by increasing delivery of key public services in online mode has not received sufficient attention in relevant mainstream sectoral policy debates yet (e.g. eLearning, eHealth, eGovernment). Against his background, there would be merit in developing a common model of European good practice as regards catering for the needs of at-risks groups by ensuring appropriate levels of usability and alternative modes of access to public services. A dedicated Directive on the protection of services of public interest could be an effective lever for EU-wide implementation of such a model.

Identifying and tackling key policy challenges imposed by emerging "second-order divides" in the virtual space

With increasing levels of Internet deployment, considerable disparities tend to emerge in relation to the ability of different population groups to fully avail the opportunities presented to them in relation to online access to useful services of public interest, eHealth and eLearning services for instance. As suggested by available evidence, such disparities tend to be closely related to the usual socio-economic fault lines of social stratification. I general, the likelihood that someone takes advantage of online services of public interest seems closely linked with socio-demographic factors, with those in more advanced circumstances being more likely to be actual users. An important element in this seems to be the fact that less advanced groups have the tendency towards lower levels of internet-related skills and a stronger orientation towards leisure-oriented usage of online media, as opposed to functional-oriented styles of usage (e.g. in terms of using the web for once own personal advancement).

Apart from representing an interesting sociological phenomenon, this trend has an important

policy dimension as it points to the risk that increasing levels of Internet penetration in conjunction with provision of services of public interest in online mode ultimately lead to a widening rather than a narrowing of social divides in society. In the scientific debate, the term "second-order divide" has been coined to reflect this development: Those who are more advanced and are more likely to already be availing services of public interest are currently gaining most from their provision in online mode, while the others tend to fall even further behind in relation to desired impacts. As suggested by the collated evidence collated, these aspects have not yet received much attention at policy level. Only individual initiatives have emerged in some Member States that address these aspects, e.g. when it comes to upskilling of unemployed people with a specific focus on successful job search via the internet or to portal–based access to thematic services for at-risk groups that can help to facilitate effective use and gaining of positive benefits. Clearly, there would be merit of a more focused concentration on these aspects within the context of an EU-driven initiative to encourage EU-wide coherence of examining key policy challenges arising in relation to second order divides and, if they are, developing appropriate interventions to address these. As already visible from evidence available today, this would need to include a coherent approach to be taken towards the issue of digital literacy, a concept that goes beyond basic ICT skills, with a specific focus on at-risk groups to enable these to gain real benefits.

"Braining-up" of current benchmarking and monitoring efforts to support more targeted eInclusion policy formulation and implementation

When compared with the digital divide debate of the 1990ies, the debate on eInclusion as a dedicated field of policy intervention has clearly gained in shape during recent years in terms of both conceptual underpinning of policy goals and differentiation of interventional measures under discussion. However, stakeholder opinions as well research clearly suggest that there is a lack of likewise differentiated information generally available to inform eInclusion policy respectively. There is a strong need for tracking progress and monitoring developments related to the diffusion of online services in all aspects of life, and in relation to the impacts this trend has on the circumstances of vulnerable groups in particular. In addition, proactive eInclusion policy needs to make sense of upcoming developments that may represent new challenges to eInclusion.

Beyond monitoring and benchmarking on the EU-level, considerable efforts have been made to monitor levels of ICT usage among various sections of the population in almost all Member States, and numerous efforts have been made to monitor the digital divide in particular. There is need for consolidating the knowledge currently available with the aim of setting up an ongoing digital exclusion monitoring system. Such a system would need to provide time series data enabling tracking changes over the time as well as country-by-country comparison enabling benchmarking across the EU. In terms of thematic focus, it would need to include a wider range of indicators than have usually been considered in previous monitoring approaches to enable a more differentiated analysis in relation to structural disparities in access to ICTs, quantity and quality of their utilisation as well as inclusion/exclusion related impacts. At the same time, there is a need to monitor new risks of exclusion that potentially come with the wider maturing of the online world, e.g. in relation to social isolation that might arise as a result of the increasing virtualisation of life with the emergence of online practices in more and more day-to-day situations. Not at least, there is a need to monitor practical disadvantages that are potentially faced by people who are not online (either voluntarily of involuntarily) or by those who are unable to make purposeful use of online media. The latter concerns for instance decreasing availability of off-line alternatives for doing things that have started to migrate towards online mode (e.g. the fading-out of traditional modes of services provision due to increasing provision in online mode, a development that has for instance started to take effect in the banking sector). Finally, such a monitoring system would need to be flexible enough to adapt to new online service delivery paradigms (e.g. the trends towards converging technical delivery platforms discussed above) and to changing concepts of exclusion/inclusion that may come with such developments

respectively.

	Near-term policy and related measures
European Commission	**Examine options for revisiting the question of Universal Service in telecommunications for low income groups in relation to online access** The Universal service Directive provides scope for action in relation to affordability of telecommunications. The current review of the telecommunications regulatory framework may provide an option for assessing whether this scope is fully utilised by the Member States. The question of universal service in telecommunications for low income groups should be re-visited. Attention needs to be paid not just to access to and costs of landline telephony but rather to online access as well. On the basis of a thorough benchmarking of current Member State provisions under the USO Directive and / or through social welfare, EU-level guidance should be put in place**.**
European Commission **&** **Regional, Municipal and Sectoral Networks**	**Explore options for reinforcing existing policies directed towards accessibility of web sites by means of flanking measures that involve relevant stake holder groupings at the implementation level** The core of the citizens' interactions with public bodies takes place at the regional and municipal level. Apart from national governments, regional and local public bodies as well as institutions of the civil society therefore have a crucial role to play in making public online services accessible to people with functional restrictions. Options for cooperation with relevant regional, municipal and sectoral networks such as for eris@, Telecities, Sen@r, Assembly of European Regions and others should therefore be examined, e.g. when it comes to awareness rising, targeted channelling of supportive resource materials and service providers' skills development (c.f. D6.2). Such measures should be aligned with relevant sectoral EU-level activities such as the implementation of relevant action plans that have already been adopted (e.g. in the fields of eGovernment, eHealth and eLearning) as well as upcoming actions plans (e.g. in the field of eInclusion).
European Commission	**Consolidate knowledge and expertise in eAccessibility with a specific focus on inclusive online service provision in converging technology environments** During the recent years, there have been a range of European level activities directed towards building up knowledge and expertise in the field of eAccessibility, including for instance research projects pursued under the subsequent Framework Programmes, the European Design for ALL and eAccessibility Network as well as the current COST219ter initiative and its predecessors. These have produced a wealth of knowledge in relation to various aspects of accessibility, e.g. in relation to web content, telecommunications, computing and broadcasting. However, there has not yet been a dedicated effort to consolidate this knowledge with a particular focus on inclusive online service provision within converging technology environments. A path finding activity should be conducted, possibly in the framework of the eInclusion subgroup, to identify key accessibility issues emerging in relation to multi-channel provision of personalised service in online mode as well as options for addressing these respectively. This should include the identification of gaps that would warrant further research.
European Commission **&** **Member States**	**Consolidate knowledge and evidence currently available in relation to scale and impacts of second-order digital divides with a specific focus on policy formulation** Historically, the digital divide debate has developed from a discourse on disparities in mere technical access to the internet into a more differentiated debate on quality of use and related impacts on the circumstances of disadvantaged groups. The wide variety of sources of both qualitative and quantitative information available from EU-funded and other research should be reviewed in order to better bring them to bear on EU-level policy directed towards tackling second-order divides, e.g. in terms of identifying priority groups and issues that need to be addressed as well as examples of how this could be achieved more practically. There are for instance indications that there is a lot of variation across the Member States when it comes to the implementation of measures directed towards increasing digital literacy and skills, and that many measures do not seem to be effective in engaging those most at-risk of digital exclusion. Based on a policy–oriented consolidation of the current knowledge base, possibly in the framework of the eInclusion sub group, a dedicated EU-level initiative could be developed in consultation with the Member States to effectively tackle second-order divides across the EU.

Preparatory research and consultative actions	
European Commission & Eurostat	**Benchmark affordability of access to online media to low income groups across the Member States and analyse appropriate measures to support universal online access** The affordability of communications services and equipment relative to the incomes of low income people needs to be systematically examined across all Member States and a study needs to be carried out of the most appropriate ways to provide financial supports to benefit those most at risk because of low income circumstances, e.g. by an appropriate mix of provisions in the Universal Service realm, under social welfare regimens or more targeted provision of financial supports.
European Commission	**Benchmark PIAP provision across the EU and conduct a systematic large-scale evaluation in relation to actual impacts on at-risk groups** The eEurope framework has been a significant stimulator of the implementation of Public Internet Access Points (PIAPs) across Europe. The available evidence suggests however that the majority of current users may not be those who are at high risk of eExclusion and that more targeted measures may be needed to reach these groups and address their needs. The (quantitative and qualitative) benchmarking of Member State activity in this field as pursued within the eEurope framework should therefore be continued, as well as systematic and large-scale evaluation of who is actually being reached by PIAPs and what are the ensuing benefits for those who are most disadvantaged. The outcomes would represent a useful source of information to what extent PIAPS actually contribute to the closing of first-order divides and whether better targeting of efforts is required. Beyond this, they would also be of interest in relation to the question whether the PIAP approach could be developed into a useful means of addressing second-order divides as well, as indicated by experiences available from some Member States such as the UK**.**
European Commission	**Conduct RTD on new accessibility challenges presented by multi-channel provision of personalised online services** Based on the path finding activity outlined above, RTD should be conducted to develop solutions to eAccessibility problems presented by multi-channel provision of personalised online services, possible under the 7th framework programme.
European Commission	**Launch a consultation and analysis on implementing a common European model on the protection of services on public interest by means of a dedicated Directive** A dedicated Directive on the protection services of public interest would provide an opportunity for an EU-driven effort to ensure that at-risk groups are not disadvantaged by the increasing provision of key public services in online mode. This would need to address both to ensure that online offerings are accessible to and usable by at-risk groups (e.g. by means of alternative access platforms such as call centres, TV , mobile devices) and the importance of maintaining more traditional ways of accessing key services (e.g. facet-to-face with help of an intermediary). The European Commission should launch an consultation process and analysis on this topic with a view to identifying what is desirable and possible.
European Commission	**Conduct a feasibility study to prepare the implementation of a comprehensive European monitoring system of digital exclusion** Currently, there is no coherent statistical evidence base available to support eInclusion policy formulation and implementation. Further to regular statistics as for instance available from EUROSTAT, there are a range of once-off studies that have produced knowledge on ICT access and usage among certain sections of the population (e.g. STILE, NESIS, SIBIS, BISER, eUSER) as well as on aspects relating to the supply of online offerings (e.g. SIBIS, eBusinessW@tch, the UN's eParticipation index and various web accessibility monitoring studies). There has not yet been a dedicated effort to consolidate all this knowledge with a view on developing a comprehensive monitoring system that would enable to track changes over time and benchmark developments in relation to ICT access/usage among vulnerable groups as well as risks of exclusion that potentially come with the wider penetration of online practices in all aspects of life. Also, there has not yet been an effort to monitor and benchmark concrete disadvantages experienced by those who cannot (or do not want to) participate in these developments. Based on a thorough consolidation of the knowledge base currently available, a feasibility study should be conducted to prepare the implementation of a comprehensive European digital exclusion monitoring system.
European Commission & Eurostat	**Launch a consultation and analysis on a possible EU-driven initiative to tackle second-order divides** Based on a consolidation of currently available knowledge as outlined above, a consultation process with the Member States should be launched to identify possible priority issues experienced in different national contexts when it comes to second-order divides and framework conditions for addressing these respectively.

	Preparatory research and consultative actions
European Commission & Member States	**Implement measures ensuring universal online access across the Union** Based on the outcomes of the preparatory measures outlined above the European Institutions should provide guidance to the Member States on putting in place appropriate measures to ensure universal online access across the EU, e.g. under the Universal service regime or under national welfare regimes.
European Commission & Member States	**Implement a common European web accessibility certification scheme** Based on the outcomes of relevant EU-level activities such as the WAB cluster, a Europe-wide accessibility certification scheme should be put in place. Such a scheme would need to be referenced by relevant national regulation/legislation. This would give a stronger impetus to the web accessibility theme even beyond the public sector.
European Commission & Member States	**Implement an EU-driven initiative to tackle second-order divides** Based on the preparatory work outlined above, an EU-driven initiative directed towards tackling second-order divides should be implemented. Whilst respect for subsidiary must be maintained and "bottom-up" activity geared towards given national (even local) socio-educational contexts has a central role and legitimacy, there is also an important need for an EU-driven effort to encourage consistency and quality in key fields such as digital literacy of at-risk groups. There is also a need to give attention to the question on how specific instruments, such as the European Computer Driving License, can be used to target required capacity building to specific at-risk groups in this area.
European Commission & Regional and sectoral networks	**Implement flanking "bottom-up" measures to reinforce coherent implementation of national web accessibility policies** Based on the outcomes of the preparatory measure outlined above the relevant sectoral units of the Commission, if possible in cooperation with relevant regional and sectoral networks, should implement suitable bottom-up measures targeting the implementation level of web accessibility, e.g. when it comes to awareness rising and capacity building at the side of service providers.
European Commission	**Develop and disseminate resource materials to support implementation of inclusive online services of public interest** The evidence suggest that providers of services of public interest may need support in order to effectively address the issue of inclusiveness in their activities, e.g. when it comes to eAccessibility, usability of services and content in relation to vulnerable groups, multi-channelling enabling better outreach to such groups and the like. Based on the preparatory measures outlined above the Commission should launch an initiative to develop and distribute appropriate resource materials and guidance to relevant service providers respectively
European Commission	**Implement a Directive on the protection of services of public interest** Based on the preparatory activities outlined above (consultation and analysis), the European Institutions should implement a common European model of good practice in inclusive provision of services of public interest by means of a dedicated Directive. This should include guidance on a strong implementation of eInclusion related aspects at the level of the Member States.
European Commission & Eurostat	**Implement a comprehensive system to monitor and benchmark digital exclusion across the EU** Based on the feasibility study outlined above, the relevant institutions of the European Union (possibly EUROSTAT), should implement a comprehensive and transparent monitoring and benchmarking system on digital exclusion to inform eInclusion policy formulation and implementation.

Policy Agenda 2: Exploiting online opportunities for social cohesion

Leveraging online services to enable vulnerable people to live independent in the communities

Already for quite some time, the distance bridging capabilities of the telephone network have been exploited to support independent living of people with disabilities and older people. In some Member States telephone-based social alarm services and remote monitoring services that rely on safety and security sensors in the home have become quite common. Moreover, there has been a substantial amount of RTD in this field which has to a large extent been

stimulated by support under the subsequent EU Framework Programmes for RTD, e.g. when it comes to more advanced telecare services. A large number of pilot implementations and trials have demonstrated that ICT-enabled remote support can facilitate the independence of people who otherwise rely on the help of others, thus yielding considerable positive impacts on their quality of life. All in all, evidence suggests that these developments offer a large but still unrealised potential to enable vulnerable citizens to live independent in the community. However, stakeholder opinion as well as recent research suggests that market structures prevailing in the care domain have tended to hamper wider deployment of many solutions that have in proved useful in experimental settings.

Whilst respect to subsidiary must be maintained when it comes to policy intervention concerning the care sector, there is a role for an EU-driven effort to improve uptake of solutions that are already available today. There are several leverages that warrant attention if the required market response is to be triggered, for instance awareness rising of what is possible today among those who need to make required investment decisions and helping these to better understand impacts of a wider implementation of independent living solutions (e.g. in relation to costs and benefits incurring at different levels and to different parties). However, there are two aspects were EU-level activity would in particular be helpful to shape developments into the desired direction.

To begin with, lacking interoperability of technology components/infrastructures is an important issue that clearly has a supra-national dimension. Although this aspect is beginning to be addressed by industry in the framework of the recently launched CONTINUA group, there would be merit in accelerating these developments in the context of the EU's RTD and deployment support programmes. Also, the lack of a well functioning value chain involving relevant parties such as technology producers, ICT installers/maintainers, care providers and not at least payers (e.g. public reimburses and private insurers) has been identified as a key challenge hampering wider deployment of remote care solutions that go beyond basic social alarms. Clearly, there would be merit of giving this aspect focused attention on the EU-level by the launching of a multi-stake holder platform to help coordinate interests of the divers parties that would need to be involved in such a value chain (including representatives of end users). This should include the development of quality standards for ICT-enabled service provision in the care domain considering ethical issues in an appropriate manner, and quality of service aspects as well. Also, there would be merit in utilising such a platform to examine the specific market dynamics and achievable outcomes in the independent living domain. Based on all this, a set of generic models of good practice and other resources materials (e.g. in relation to cost/benefit assessment) could be developed which would need to cater for the peculiarities of different care and welfare systems prevailing across the EU. These would need to be brought to bear on relevant inter-governmental policy coordination processes, e.g. in the framework of OMC processes in the social and health policy arenas, with a focus on providing guidance to national actors.

Better gearing eInclusion measures towards social inclusion goals

The assessment that technological innovations do provide good opportunities for the social inclusion was confirmed by both stake holder opinion and a wide variety of practical experimentation with eInclusion measures that is obviously happening across the Member States. Relevant measures can be found at the national, regional and local community levels, and in the activities of public authorities, NGOs, social partners and other sectoral interests. They address a range of objectives through a wide array of approaches and measures, ranging for instance from provision of targeted online content to at-risk groups to ICT-enabled capacity building of socially disadvantaged people. However, although most of the initiatives appear to have significant merit in their own right, the overall impression is one of a lack of a real strategic articulation of and integration of the eInclusion theme within the broader social inclusion agenda. In addition, it seems that there are many small-scale local activities with local reach that are less visible.

Against this background, it may not come as a surprise that not much effort seems to have been given yet to systematic evaluation and impacts assessment in this field. However, stake holder opinion suggests that eInclusion measures pursued so far may not always have yielded expected impacts and that the success of such measures very often depended on a careful tailoring to given local contexts. Whilst it is clear that bottom-up activity has a central role to play when it comes to social inclusion and that respect to subsidiary must be maintained in the field of social policy intervention, clearly there would be merit in an EU-driven effort directed towards facilitating consistency and quality of outcomes in order to help focusing efforts and resources on those types of measures that can contribute most to social inclusion. In particular, an Europe-wide mechanism for knowledge sharing and mutual exchange of experiences to help avoiding duplication of failure would seem useful here. Beyond this, there could be a role for the EU to support the actors on the ground - in many instances comprising public bodies and organisations of the civil society that operate in a local context – in conceptual and financial regard when it comes to evaluation and impact assessment.

Leveraging leading edge technology developments to facilitate service innovation in the social arena

Traditionally, in the social arena levels of awareness of technology as an enabler of innovation in services provision have been rather low. Stakeholder opinion suggests that, when compared with the health arena for instance, the issue of ICT-enabled service innovation has not yet received much attention in academic circles and among practitioners in the social sector. As a consequence experimentation with ICT solutions in the social arena has trended to largely focus on doing traditional things with help of ICT rather than exploiting the inherent capacities of new technologies to do entirely new things, and thereby increasing desired impacts.

In view of low levels of awareness of new technology developments in the social arena, there would be merit in an EU-driven effort to encourage experimentation with online technologies with a focus on stimulating innovative practices in the social sector, e.g. when it comes to developing innovative service concepts and empowering socially disadvantaged groups to take their own steps towards improving their situation. There are several aspects that would warrant attention here. To begin with, awareness of the potentials generally provided by online media in this regard needs to be raised among relevant actors on the ground. There is for instance a trend towards increasing “social” use of online media, e.g. in terms of self-organised social activities and networking (e.g. story telling, self-organised support networks). Such developments would need to be brought to bear on social services provision at the grass roots level, e.g. when it comes to strengthening social and other capacities of at-risk groups. Moreover, current levels of technology related knowledge and capacities prevailing in the social arena need to be raised with a view on encouraging experimentation with innovative technologies as a catalyst for service innovation, in relation to both client-facing service provision and processes running at “back-office” levels. Finally, funding of innovative trials and exchange of good practice would give developments in this field a stronger impetus, and facilitate the building-up of professional expertise and research capacities at the national level respectively.

	Near-term policy and related measures
European Commission	**Examine options for setting up a multi-stakeholder platform in the independent living domain** Examine options for setting up a multi-stakeholder platform specifically dedicated to help coordinate the interest of the diverse stake holders that would need to be involved in well functioning independent living value chains. This should include a careful review of existing evidence on today's national care markets in order to identify the various stakeholder groupings that would need to be involved and the development of suitable terms of reference enabling these to cooperate in a productive manner.
European Commission	**Conceptually prepare the launching of an online platform directed towards good practice exchange and mutual learning in the field of eInclusion** The launching of an online platform enabling exchange of good practice and mutual learning should be carefully prepared. This should, on the one hand, include the preparation of a conceptual framework to enable meaningful structuring of information to be provided (e.g. structuring of good practice according to target groups or types of measures). On the other hand, it should include the definition of functionalities and content that would be required to deliver real benefits to the stake holder groupings ultimately to be addressed. Sufficient attention also needs to be given to the fact that information provided in English language may not reach a large share of relevant actors in this field. This exercise could be conceptually inspired by a review of existing online support platforms, even from other thematic fields (e.g. German Digital Opportunities Portal[17], the eInclusion@EU web presence[18], the Good Practice in eHealth platform[19] and the European e-Business Observatory[20])
European Commission **&** **Relevant Sectoral and Regional Networks**	**Explore options for cooperating with relevant networks and sectoral umbrella groups to develop an awareness rising campaign on potentials provided by leading edge ICT development to the social sector** The core of interactions with social at-risk groups takes place at the regional and municipal level. Leveraging the creative potential of public bodies and institutions of the civil society is thus crucial when it comes to harnessing innovative technologies for the purposes of social inclusion. Options for developing a. well targeted awareness rising campaign in cooperation with relevant sectoral networks such as the Platform of European Social NGOs as well as regional/municipal networks such as for eris@, Telecities, Sen@r, Assembly of European Regions should be explored.
	Preparatory research and consultative actions
European Commission	**Conduct a comprehensive impact assessment study of existing independent living implementations** A study should be carried out to identify existing implementations of independent living solutions across the EU and to assess related impacts in a comprehensive manner. The analysis should consider impacts arising on different levels, e.g. on the individual level (e.g. on the care recipients, their families and professional care staff), the organisational level (e.g. on service providers and reimburses) and the societal level (e.g. on welfare regimes and the society at large). Beyond representing a valuable source of information to the wider care community, outcomes would represent a consolidated evidence base for the work of the independent living multi-stakeholder platform proposed above.
European Commission	**Conduct a study of European financing models of independent living services** A study should be conducted to analyse European care markets with a view on eliciting viable financing models for independent living services delivery in general and integrated social and health care models in particular. Again, outcomes would be a valuable source of information to assess sustainable financing opportunities available to the Member States to support investment in eCare and provide a valuable input to the work of the proposed eCare multi-stakeholder platform.
European	**Conduct an impact assessment study on national, regional and local eInclusion measures**

[17] http://www.digitale-chancen.de/content/sections/static.cfm/key.58

[18] www.eInclusion-EU.org

[19] http://www.good-ehealth.org/

[20] http://www.ebusiness-watch.org/

Commission	A study should be carried out to identify and assess existing eInclusion measures at the national, regional and local level that are directed towards social inclusion of at-risk groups. The focus should be on analysing whether - and if so how – policy measures pursued under the eInclusion banner impact on social inclusion, thereby enabling a strategic analysis how eInclusion issues feed into the wider social policy agenda. Outcomes would represent valuable sources of information for providing guidance to relevant actors on the ground on how to target appropriate measures to those groups and issues most at-risk when publicly-funded measures to address eInclusion are being introduced. Exploitation could happen inn the context of the proposed awareness rising campaign and via the eInclusion good practice online platform.
European Commission	**Conduct an a path finding study of potentials provided by ICT to the social sectors** A path finding study should be conducted in order to assess leading edge ICT developments in relation to the potentials they principally offer to the social sector. This should include a comprehensive technology watch exercise and an assessment in relation to potentials provided to improve delivery of existing services and to service innovation as well. Both client-facing service delivery and cooperation processes at the back-office level should be addressed. Outcomes should support a meaningful targeting of further research and experimentation in the field, and they should provide a useful source of information to be exploited for the purposes of awareness rising among relevant actors (e.g. by means of an awareness rising campaign to be conducted in cooperation with relevant sectoral networks and via the European online platform for good practice exchange and mutual learning in the field of eInclusion).
European Commission & Independent Living Stakeholders	**Launch a consultation among stakeholders relevant to the independent living domain on options for setting up a multi-stakeholder platform** Based on the preparatory work outlined above, a consultation should be launched among all stake holder groupings that would need to be involved in an independent living multi-stakeholder platform in relation to their expectations, possible contributions and a suitable mode of cooperation to enable tangible outcomes to be produced.
European Commission & European Standardisation Bodies	**Facilitate standardisation of independent living solutions in the framework of EU-funded RTD** Standardisation in the independent living domain should be facilitated in the framework of EU-funded RTD. This should include proactive provision of information to relevant projects on how EU-level standardisation processes work and how individual projects can contribute, possibly building on the work of the COPRAS**21** support action pursued under FP6. Also, where appropriate individual projects should be required - e.g. during the negotiation phase - to give adequate attention to leading edge standardisation developments relevant to the field and to donate appropriate time and resources to this aspect.
	Long term policy and other measures
European Commission & Independent Living Stakeholders	**Implement a multi-stakeholder platform in the independent living domain** Based on all preparatory work steps outlined above, an independent living multi-stakeholder platform should be launched On the basis of commonly agreed terms of reference, all participants should commit themselves to generate tangible outcomes according to a clearly defined work plan. A possible focus could be on producing a set of good practice models in independent living and other resource materials (e.g. on cost/benefits aspects, financing/business models) that can be brought to bear on relevant inter-governmental co-cooperation processes, e.g. in the framework of OMC processes in the fields of social and health policies or the upcoming 169 initiative, as well as industry-driven cooperation processes as for instance pursued by the recently launched CONTINUA group.[22].
European Commission	**Launch a European online platform for good practice exchange and mutual learning in the field of eInclusion** Based on a careful conceptual preparation as outlined above a Launch a European online platform for good practice exchange and mutual learning in the field of eInclusion should be launched, possibly in the framework of the upcoming eInclusion proves**.** The platform should represent a key focal point for relevant actor grouping across the EU including researchers, policy makers and practitioners engaged in the social inclusion theme.

[21] http://www.w3.org/2004/copras/

[22] http://www.continuaalliance.org/home/

European Commission	**Provide guidance to eInclusion stake holders on the ground in relation to targeting and evaluating of eInclusion measures** Based on the outcomes of the impact assessment study outlined above, guidance should be provided to key actors in the filed on how best to target social at-risk groups by means of eInclusion measures and how to evaluate such measures in relation to the achievement of desired impacts. To this end appropriate resource materials should be developed and distributed via the proposed eInclusion online platform and in the framework of the proposed awareness rising campaign.
European Commission & Relevant Sectoral and Regional Networks	**Conduct an awareness rising campaign on the potentials provided by leading edge technology developments to the social sector** Based on the preparatory work outlined above, an awareness rising campaign should be conducted, if possible in cooperation with relevant sectoral networks such as the Platform of European Social NGOs as well as regional/municipal networks such as for eris@, Telecities, Sen@r, Assembly of European Regions should be explored. The campaign should be directed towards relevant actors in the social arena and address their informational needs in an appropriate manner (e.g. by means of dedicated events such as workshops and sectoral conferences, suitable resource materials and/or publications in professional journals)
European Commission & Member States	**Encourage RTD on and experimentation with online applications in the social arena with a focus on service innovation** Based on the preparatory work outlined above (particularly outcomes of the proposed path finding study), ICT-related RTD activities and experimentation in the social sector should be facilitated, e.g. in the framework of the EU's RTD and deployment support programmes, the structural funds and dedicated national programmes.

4 Sources for further reading

As summarised by below, a range of project reports has been produced within the overall project. Those who have been categorised as publicly available can be downloaded from the eInclusion@EU website (www.einclusion-eu.org).

Exhibit 6- Overview of public deliverables produced within the eInclusion@EU project

Del. no	Deliverable
D1.1	Analytical framework on eInclusion/eAccessibility priority issues
D2.3	First eAccessibility *w*orkshop report
D2.5	Second eAccessibility *w*orkshop report
D2.6	Policy roadmap report on eAccessibility
D3.1	Conceptual brief for the topic report on access to employment
D3.3	Towards a policy roadmap on eInclusion and eAccessibility in access to employment - consolidated workshop results
D3.4	A policy roadmap on eInclusion and eAccessibility in access to employment
D4.3	Towards a policy roadmap on eInclusion and eAccessibility in access to public services - consolidated workshop results
D4.4	A policy roadmap on eInclusion and eAccessibility in access to public services
D6.3	Final publishable public report

The eInclusion@EU bulletin was distributed to a targeted audience in the form of an electronic newsletter. On the one hand it aimed at distributing knowledge generated internal to the project. On the other hand, knowledge relevant to the eInclusion domain stemming from external information sources was included as well. All project bulletins are online available at: http://www.einclusion-eu.org/NewsLetter.asp?MenuID=159.

For further information please look up the project's web site (www.einclusion-eu.org) or contact the project coordinator:

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